

# SAFETY DATA SHEET

|                  |                                                                                   |
|------------------|-----------------------------------------------------------------------------------|
| <b>SECTION 1</b> | <b>IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING</b> |
|------------------|-----------------------------------------------------------------------------------|

As of the revision date above, this (M)SDS meets the regulations in the United Kingdom & Ireland.

## 1.1. PRODUCT IDENTIFIER

**Product Name:** 75127 1200mm Box Level  
**Product Description:** Vial Liquid  
**Registration Name:** Hydrocarbons, C11-C12, isoalkanes, <2% aromatics

## 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

**Intended Use:** Solvent

### Identified Uses:

Manufacture of substance  
Distribution of substance  
Formulation and (re)packing of substances and mixtures  
Use in laboratories - Industrial  
Use in laboratories - Professional

See Section 16 for list of REACH Use Descriptors for Identified Uses shown above.

**Uses advised against:** The above Identified Uses are specific to the customer for whom this Safety Data Sheet is intended and are uses for which the information in this Safety Data Sheet is applicable. Other uses for this product may be supported/registered. This product is not recommended for any industrial, professional or consumer use other than those which are supported/registered.

## 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

**Supplier:** Draper Tools Ltd  
Hursley Road  
Chandlers Ford  
Eastleigh  
Hampshire  
SO53 1YF

Draper Helpline +44 (0) 23 8049 4344

**SECTION 2**

**HAZARDS IDENTIFICATION**

**2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE**

**Classification according to Regulation (EC) No 1272/2008**

Flammable liquid: Category 3.

Aspiration toxicant: Category 1.

H226: Flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

**Classification according to EU Directive 67/548/EEC / 1999/45 EC**

| Xn; R65 | R66 |

Harmful.

R65; Harmful: may cause lung damage if swallowed. R66; Repeated exposure may cause skin dryness or cracking.

The classification of this product is based all or in part on test data.

**2.2. LABEL ELEMENTS**

**Label elements according to Regulation (EC) No 1272/2008**

**Pictograms:**



**Signal Word: Danger**

**Hazard Statements:**

H226: Flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

EUH066: Repeated exposure may cause skin dryness or cracking.

**Precautionary Statements:**

P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed.  
 P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P280: Wear protective gloves and eye / face protection.  
 P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/attention. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish.  
 P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.  
 P501: Dispose of contents and container in accordance with local regulations.

**Contains:** Hydrocarbons, C11-C12, isoalkanes, <2% aromatics

**2.3. OTHER HAZARDS**

**Physical / Chemical Hazards:**

Material can accumulate static charges which may cause an ignition. Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited.

**Health Hazards:**

Repeated exposure may cause skin dryness or cracking. Mildly irritating to skin. May be irritating to the eyes, nose, throat, and lungs.

**Environmental Hazards:**

No significant hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**3.1. SUBSTANCES**

This material is defined as a substance.

**Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)**

| Name                                             | CAS# | EC#       | Registration#    | Concentration* | GHS/CLP classification                                            |
|--------------------------------------------------|------|-----------|------------------|----------------|-------------------------------------------------------------------|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics |      | 918-167-1 | 01-2119472146-39 | 100 %          | Asp. Tox. 1 H304, EUH066, Flam. Liq. 3 H226, [Skin Irrit. 3 H316] |

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

| Name                                             | CAS# | EC#       | Registration#    | Concentration* | DSD Symbols/Risk Phrases |
|--------------------------------------------------|------|-----------|------------------|----------------|--------------------------|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics |      | 918-167-1 | 01-2119472146-39 | 100 %          | Xn;R65, R66              |

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Concentration values may vary.

Note: Any entry in the EC# column that begins with the number "9" is a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance. See Section 15 for additional CAS number information for the substance.

Note: See (M)SDS Section 16 for full text of the R-Phrases. See (M)SDS Section 16 for full text of hazard statements.

**3.2. MIXTURES** Not Applicable. This product is regulated as a substance.

## SECTION 4 FIRST AID MEASURES

### 4.1. DESCRIPTION OF FIRST AID MEASURES

#### INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

#### SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

#### EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

#### INGESTION

Seek immediate medical attention. Do not induce vomiting.

### 4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No important symptoms or effects.

### 4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

## SECTION 5 FIRE FIGHTING MEASURES

### 5.1. EXTINGUISHING MEDIA

**Suitable Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Unsuitable Extinguishing Media:** Straight streams of water

### 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

**Hazardous Combustion Products:** Incomplete combustion products, Oxides of carbon, Smoke, Fume

### 5.3. ADVICE FOR FIRE FIGHTERS

**Fire Fighting Instructions:** Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Unusual Fire Hazards:** Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >40°C (104°F) [ASTM D-93]

**Upper/Lower Flammable Limits (Approximate volume % in air):** UEL: 7.0 LEL: 0.6 [Extrapolated]

**Autoignition Temperature:** >200°C (392°F) [Extrapolated]

## SECTION 6

## ACCIDENTAL RELEASE MEASURES

### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

#### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

#### PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

### 6.2. ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

### 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

**Land Spill:** Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. **Large Spills:** Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction

and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

#### 6.4. REFERENCES TO OTHER SECTIONS

See Sections 8 and 13.

### SECTION 7

### HANDLING AND STORAGE

#### 7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Loading/Unloading Temperature:** [Ambient]

**Transport Temperature:** [Ambient]

**Static Accumulator:** This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

#### 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.

**Storage Temperature:** [Ambient]

**Suitable Containers/Packing:** Tankers; Railcars; Tank Trucks; Barges; Drums; Tank Cars

**Suitable Materials and Coatings (Chemical Compatibility):** Inorganic Zinc Coatings; Amine Epoxy; Polyamide Epoxy; Epoxy Phenolic; Neoprene; Carbon Steel; Stainless Steel

**Unsuitable Materials and Coatings:** Vinyl Coatings; Natural Rubber; Butyl Rubber; Ethylene-propylene-diene monomer (EPDM); Polystyrene

**7.3. SPECIFIC END USES:** Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

### SECTION 8

### EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1. CONTROL PARAMETERS

##### EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

| Substance Name                                   | Form    | Limit/Standard |            |         | Note               | Source     |
|--------------------------------------------------|---------|----------------|------------|---------|--------------------|------------|
|                                                  |         | RCP - TWA      | 1200 mg/m3 | 177 ppm |                    |            |
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | Vapour. | RCP - TWA      | 1200 mg/m3 | 177 ppm | Total Hydrocarbons | ExxonMobil |

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):  
UK Health and Safety Executive (HSE)

**DERIVED NO EFFECT LEVEL (DNEL)/DERIVED MINIMAL EFFECT LEVEL (DMEL)**

**Worker**

| Substance Name                                   | Dermal | Inhalation |
|--------------------------------------------------|--------|------------|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | NA     | NA         |

**Consumer**

| Substance Name                                   | Dermal | Inhalation | Oral |
|--------------------------------------------------|--------|------------|------|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | NA     | NA         | NA   |

Note: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

**PREDICTED NO EFFECT CONCENTRATION (PNEC)**

| Substance Name                                   | Aqua (fresh water) | Aqua (marine water) | Aqua (intermittent release) | Sewage treatment plant | Sediment | Soil | Oral (secondary poisoning) |
|--------------------------------------------------|--------------------|---------------------|-----------------------------|------------------------|----------|------|----------------------------|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | NA                 | NA                  | NA                          | NA                     | NA       | NA   | NA                         |

For hydrocarbon UVCBs, no single PNEC value is identified for the overall substance or used in risk assessment calculations. Therefore, no PNEC values are disclosed in the above table. For further information, please contact ExxonMobil.

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## 8.2. EXPOSURE CONTROLS

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. Nitrile, minimum 0.38 mm thickness or comparable protective barrier material with a high performance level for continuous contact use conditions, permeation breakthrough minimum 480 minutes in accordance with CEN standards EN 420 and EN 374.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

**For Summary of Risk Management Measures across all identified uses, see Annex.**



## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid  
**Form:** Clear  
**Colour:** Colourless  
**Odour:** Faint  
**Odour Threshold:** No data available  
**pH:** No data available  
**Melting Point:** No data available  
**Freezing Point:** No data available  
**Initial Boiling Point / and Boiling Range:** 150°C (302°F) - 220°C (428°F) [ASTM D86]  
**Flash Point [Method]:** >40°C (104°F) [ASTM D-93]  
**Evaporation Rate (n-butyl acetate = 1):** 0.06 [In-house method]  
**Flammability (Solid, Gas):** No data available  
**Upper/Lower Flammable Limits (Approximate volume % in air):** UEL: 7.0 LEL: 0.6 [Extrapolated]  
**Vapour Pressure:** 0.07 kPa (0.53 mm Hg) at 20 °C | < 0.5 kPa (3.75 mm Hg) at 25°C  
[In-house method]  
**Vapour Density (Air = 1):** > 1 at 101 kPa [Calculated]  
**Relative Density (at 15 °C):** 0.721 - 0.801 [With respect to water] [Calculated]  
**Solubility(ies):** water Negligible  
**Partition coefficient (n-Octanol/Water Partition Coefficient):** No data available  
**Autoignition Temperature:** >200°C (392°F) [Extrapolated]  
**Decomposition Temperature:** No data available  
**Viscosity:** [N/D at 40 °C] | 1 cSt (1 mm<sup>2</sup>/sec) at 20°C - 2.3 cSt (2.3 mm<sup>2</sup>/sec) at 20°C [ASTM D7042]  
**Explosive Properties:** None  
**Oxidizing Properties:** None

### 9.2. OTHER INFORMATION

**Density (at 15 °C):** 720 kg/m<sup>3</sup> (6.01 lbs/gal, 0.72 kg/dm<sup>3</sup>) - 800 kg/m<sup>3</sup> (6.68 lbs/gal, 0.8 kg/dm<sup>3</sup>) [ISO 12185]  
**Pour Point:** < -114°C (-173°F) [ASTM D5950]  
**Molecular Weight:** 164 [Calculated]  
**Hygroscopic:** No  
**Coefficient of Thermal Expansion:** 0.00101 VV/DEG C [Calculated] [In-house method]

## SECTION 10 STABILITY AND REACTIVITY

**10.1. REACTIVITY:** See sub-sections below.

**10.2. CHEMICAL STABILITY:** Material is stable under normal conditions.

**10.3. POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

**10.4. CONDITIONS TO AVOID:** Open flames and high energy ignition sources.

**10.5. INCOMPATIBLE MATERIALS:** Strong oxidisers

**10.6. HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

|                   |                                  |
|-------------------|----------------------------------|
| <b>SECTION 11</b> | <b>TOXICOLOGICAL INFORMATION</b> |
|-------------------|----------------------------------|

**11.1. INFORMATION ON TOXICOLOGICAL EFFECTS**

| <b>Hazard Class</b>                                                                                                                    | <b>Conclusion / Remarks</b>                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>                                                                                                                      |                                                                                                                                                                        |
| Acute Toxicity: (Rat) 8 hour(s) LC50 > 5000 mg/m3 (Vapour) Test scores or other study results do not meet criteria for classification. | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403                                            |
| Irritation: No end point data for material.                                                                                            | Negligible hazard at ambient/normal handling temperatures.                                                                                                             |
| <b>Ingestion</b>                                                                                                                       |                                                                                                                                                                        |
| Acute Toxicity (Rat): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.                    | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401                                            |
| <b>Skin</b>                                                                                                                            |                                                                                                                                                                        |
| Acute Toxicity (Rabbit): LD50 > 5000 mg/kg Test scores or other study results do not meet criteria for classification.                 | Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402                                            |
| Skin Corrosion/Irritation: Data available. Test scores or other study results do not meet criteria for classification.                 | Mildly irritating to skin with prolonged exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404          |
| <b>Eye</b>                                                                                                                             |                                                                                                                                                                        |
| Serious Eye Damage/Irritation: Data available. Test scores or other study results do not meet criteria for classification.             | May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405           |
| <b>Sensitisation</b>                                                                                                                   |                                                                                                                                                                        |
| Respiratory Sensitization: No end point data for material.                                                                             | Not expected to be a respiratory sensitizer.                                                                                                                           |
| Skin Sensitization: Data available. Test scores or other study results do not meet criteria for classification.                        | Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406                       |
| <b>Aspiration:</b> Data available.                                                                                                     | May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.                                                                    |
| <b>Germ Cell Mutagenicity:</b> Data available. Test scores or other study results do not meet criteria for classification.             | Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476 478 479 |
| <b>Carcinogenicity:</b> Data available. Test scores or other study results do not meet criteria for classification.                    | Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453                               |
| <b>Reproductive Toxicity:</b> Data available. Test scores or other study results do not meet criteria for classification.              | Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421 422         |
| <b>Lactation:</b> No end point data for material.                                                                                      | Not expected to cause harm to breast-fed children.                                                                                                                     |
| <b>Specific Target Organ Toxicity (STOT)</b>                                                                                           |                                                                                                                                                                        |

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|                                                                                                                |                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Single Exposure: No end point data for material.                                                               | Not expected to cause organ damage from a single exposure.                                                                                                                                 |
| Repeated Exposure: Data available. Test scores or other study results do not meet criteria for classification. | Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413 422 |

#### OTHER INFORMATION

##### For the product itself:

Vapour/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anaesthesia, drowsiness, unconsciousness and other central nervous system effects including death. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

## SECTION 12

## ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

### 12.1. TOXICITY

Material -- Not expected to be harmful to aquatic organisms.

### 12.2. PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Material -- Expected to be inherently biodegradable

#### Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

#### Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

#### Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

### 12.3. BIOACCUMULATIVE POTENTIAL

 Not determined.

### 12.4. MOBILITY IN SOIL

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

### 12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)

This product is not, or does not contain, a substance that is a PBT or a vPvB.

### 12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

## OTHER ECOLOGICAL INFORMATION

VOC: Yes

## ECOLOGICAL DATA

**Ecotoxicity**

| Test                       | Duration   | Organism Type                   | Test Results                                |
|----------------------------|------------|---------------------------------|---------------------------------------------|
| Aquatic - Acute Toxicity   | 72 hour(s) | Pseudokirchneriella subcapitata | NOELR 1000 mg/l: data for similar materials |
| Aquatic - Acute Toxicity   | 72 hour(s) | Pseudokirchneriella subcapitata | EL0 1000 mg/l: data for similar materials   |
| Aquatic - Chronic Toxicity | 21 day(s)  | Daphnia magna                   | NOELR >=1 mg/l: data for the material       |
| Aquatic - Acute Toxicity   | 96 hour(s) | Oncorhynchus mykiss             | LL0 1000 mg/l: data for similar materials   |
| Aquatic - Acute Toxicity   | 48 hour(s) | Daphnia magna                   | EL0 1000 mg/l: data for similar materials   |

**Persistence, Degradability and Bioaccumulation Potential**

| Media | Test Type              | Duration  | Test Results: Basis                      |
|-------|------------------------|-----------|------------------------------------------|
| Water | Ready Biodegradability | 28 day(s) | Percent Degraded 31.3 : similar material |

**SECTION 13**

**DISPOSAL CONSIDERATIONS**

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**13.1. WASTE TREATMENT METHODS**

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

**REGULATORY DISPOSAL INFORMATION**

**European Waste Code:** 08 XX XX

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

**SECTION 14**

**TRANSPORT INFORMATION**

**LAND (ADR/RID)**

14.1. UN Number: 3295

14.2. UN Proper Shipping Name (Technical Name): HYDROCARBONS, LIQUID, N.O.S.

14.3. Transport Hazard Class(es): 3

14.4. Packing Group: III  
14.5. Environmental Hazards: None  
14.6. Special Precautions for users:  
Classification Code: F1  
Label(s) / Mark(s): 3  
Hazard ID Number: 30  
Hazchem EAC: 3Y

**INLAND WATERWAYS (ADNR/ADN)**

14.1. UN (or ID) Number: 3295  
14.2. UN Proper Shipping Name (Technical Name): HYDROCARBONS, LIQUID, N.O.S. (isododecanes, isoundecanes)  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: III  
14.5. Environmental Hazards: None  
14.6. Special Precautions for users:  
Hazard ID Number: 30  
Label(s) / Mark(s): 3 (F)

**SEA (IMDG)**

14.1. UN Number: 3295  
14.2. UN Proper Shipping Name (Technical Name): HYDROCARBONS, LIQUID, N.O.S.  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: III  
14.6. Special Precautions for users:  
Label(s): 3  
EMS Number: F-E, S-D  
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S., 3, PG III, (>40°C c.c.)

**SEA (MARPOL 73/78 Convention - Annex II):**

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Substance Name: NOXIOUS LIQUID, N.F.,(7) N.O.S., (ISOPAR H, contains iso-and cycloalkanes (C10-C11))  
Ship type required: 3  
Pollution category: Y

**AIR (IATA)**

14.1. UN Number: 3295  
14.2. UN Proper Shipping Name (Technical Name): HYDROCARBONS, LIQUID, N.O.S.  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: III  
14.5. Environmental Hazards: None  
14.6. Special Precautions for users:  
Label(s) / Mark(s): 3  
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S., 3, PG III

**SECTION 15**

**REGULATORY INFORMATION**

**REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS**

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS,

IECSC, KECI, PICCS

The following substance(s) in this product is (are) identified by the CAS number(s) shown in countries not subject to the REACH regulation.

| Name                                             | CAS        |
|--------------------------------------------------|------------|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | 90622-57-4 |

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

#### Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]

98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.

1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

Refer to the relevant EU/national regulation for details of any actions or restrictions required by the above Regulation(s)/Directive(s).

### 15.2. CHEMICAL SAFETY ASSESSMENT

**REACH Information:** A Chemical Safety Assessment has been carried out for one or more substances present in the material.

## SECTION 16 OTHER INFORMATION

#### IDENTIFIED USES:

Manufacture of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU10, SU3, SU8, SU9)  
Distribution of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3, SU8, SU9)  
Formulation and (re)packing of substances and mixtures (PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU10, SU3)  
Use in laboratories - Industrial (PROC15, SU3)  
Use in laboratories - Professional (PROC15, SU22)

**REFERENCES:** Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

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**List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:**

| <b>Acronym</b> | <b>Full text</b>                                                                                 |
|----------------|--------------------------------------------------------------------------------------------------|
| N/A            | Not applicable                                                                                   |
| N/D            | Not determined                                                                                   |
| NE             | Not established                                                                                  |
| VOC            | Volatile Organic Compound                                                                        |
| AICS           | Australian Inventory of Chemical Substances                                                      |
| AIHA WEEL      | American Industrial Hygiene Association Workplace Environmental Exposure Limits                  |
| ASTM           | ASTM International, originally known as the American Society for Testing and Materials (ASTM)    |
| DSL            | Domestic Substance List (Canada)                                                                 |
| EINECS         | European Inventory of Existing Commercial Substances                                             |
| ELINCS         | European List of Notified Chemical Substances                                                    |
| ENCS           | Existing and new Chemical Substances (Japanese inventory)                                        |
| IECSC          | Inventory of Existing Chemical Substances in China                                               |
| KECI           | Korean Existing Chemicals Inventory                                                              |
| NDSL           | Non-Domestic Substances List (Canada)                                                            |
| NZIoC          | New Zealand Inventory of Chemicals                                                               |
| PICCS          | Philippine Inventory of Chemicals and Chemical Substances                                        |
| TLV            | Threshold Limit Value (American Conference of Governmental Industrial Hygienists)                |
| TSCA           | Toxic Substances Control Act (U.S. inventory)                                                    |
| UVCB           | Substances of Unknown or Variable composition, Complex reaction products or Biological materials |
| LC             | Lethal Concentration                                                                             |
| LD             | Lethal Dose                                                                                      |
| LL             | Lethal Loading                                                                                   |
| EC             | Effective Concentration                                                                          |
| EL             | Effective Loading                                                                                |
| NOEC           | No Observable Effect Concentration                                                               |
| NOELR          | No Observable Effect Loading Rate                                                                |

**KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):**

R65; Harmful: may cause lung damage if swallowed.

R66; Repeated exposure may cause skin dryness or cracking.

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

Flam. Liq. 3 H226: Flammable liquid and vapor; Flammable Liquid, Cat 3

Asp. Tox. 1 H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

[Skin Irrit. 3 H316]: Causes mild skin irritation; Skin Corr/Irritation, Cat 3

EUH066: Repeated exposure may cause skin dryness or cracking.

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Revision Changes:

Section 08: Hand CEN Standards - EU information was modified.

GHS Physical Hazards information was modified.

GHS Precautionary Statements - Disposal information was modified.

GHS Precautionary Statements - Prevention information was modified.

GHS Precautionary Statements - Response information was modified.

GHS Precautionary Statements - Storage information was modified.

Section 09: Viscosity information was modified.

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The information and recommendations contained herein are, to the best of Draper Tools Ltd knowledge and belief, accurate and reliable as of the date issued. You can contact Draper Tools Ltd to insure that this document is the most current available from Draper Tools Ltd. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

Internal Use Only

MHC: 1A, 0, 0, 0, 2, 0

DGN: LAB2588HGB (1013518)

#### ANNEX

Annex not required for this material.

| Section 1 Exposure Scenario Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <b>Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                    |
| Manufacture of substance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                    |
| <b>Use Descriptor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                    |
| Sector(s) of Use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SU10, SU3, SU8, SU9                                |
| Process Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b |
| Environmental Release Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ERC1, ERC4                                         |
| Specific Environmental Release Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                    |
| <b>Processes, tasks, activities covered</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                    |
| Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).                                                                                                                                                                                                                                                                                                                                                                                       |                                                    |
| Section 2 Operational conditions and risk management measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                    |
| Section 2.1 Control of worker exposure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                    |
| <b>Product Characteristic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                    |
| Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                    |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                    |
| Covers daily exposures up to 8 hours (unless stated differently)[G2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                    |
| Covers percentage substance in the product up to 100 %[G13]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                    |
| <b>Other given operational conditions affecting workers exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                    |
| Assumes a good basic standard of occupational hygiene is implemented [G1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                    |
| Contributing Scenarios/Specific Risk Management Measures and Operating Conditions<br>(only required controls to demonstrate safe use listed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                    |
| <b>General measures (Aspiration Hazard)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                    |
| The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.<br>Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting. |                                                    |
| <b>General measures (Flammable Liquid)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                    |



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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the recast ATEX Directive 2014/34/EU. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.<br>Use in contained systems. Avoid ignition sources – No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Comply with relevant EU/national regulations. Review SDS for additional advice. |
| <b>Section 2.2 Control of environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Product characteristics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Environmental factors not influenced by risk management</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Other given operational conditions affecting environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Technical conditions and measures at process level (source) to prevent release</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Organisation measures to prevent/limit release from site</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Conditions and measures related to municipal sewage treatment plant</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Conditions and measures related to external treatment of waste for disposal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Conditions and measures related to external recovery of waste                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Section 3 Exposure Estimation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>3.1. Health</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>3.2. Environment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Section 4 Guidance to check compliance with the Exposure Scenario</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>4.1. Health</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Available hazard data do not support the need for a DNEL to be established for other health effects.[G36]<br>Risk Management Measures are based on qualitative risk characterisation. [G37]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>4.2. Environment</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| <b>Section 1 Exposure Scenario Title</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                |
| Distribution of substance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                |
| <b>Use Descriptor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                |
| Sector(s) of Use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SU3, SU8, SU9                                                  |
| Process Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9      |
| Environmental Release Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ERC1, ERC2, ERC3, ERC4, ERC5, ERC6A, ERC6B, ERC6C, ERC6D, ERC7 |
| Specific Environmental Release Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                |
| <b>Processes, tasks, activities covered</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                |
| Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, distribution and associated laboratory activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                |
| <b>Section 2 Operational conditions and risk management measures</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                |
| <b>Section 2.1 Control of worker exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                |
| <b>Product Characteristic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                |
| Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                |
| Covers daily exposures up to 8 hours (unless stated differently)[G2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                |
| Covers percentage substance in the product up to 100 %[G13]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                |
| <b>Other given operational conditions affecting workers exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                |
| Assumes a good basic standard of occupational hygiene is implemented [G1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                |
| <b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b><br>(only required controls to demonstrate safe use listed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                |
| <b>General measures (Aspiration Hazard)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                |
| The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.<br>Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.                                                                                                                                                                                                                                                           |                                                                |
| <b>General measures (Flammable Liquid)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                |
| Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the recast ATEX Directive 2014/34/EU. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.<br>Use in contained systems. Avoid ignition sources – No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Comply with relevant EU/national regulations. Review SDS for additional advice. |                                                                |
| <b>Section 2.2 Control of environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                |
| <b>Product characteristics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| <b>Environmental factors not influenced by risk management</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| <b>Other given operational conditions affecting environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |
| <b>Technical conditions and measures at process level (source) to prevent release</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>                                                                           |
| Not applicable                                                                                                                                                                              |
| <b>Organisation measures to prevent/limit release from site</b>                                                                                                                             |
| Not applicable                                                                                                                                                                              |
| <b>Conditions and measures related to municipal sewage treatment plant</b>                                                                                                                  |
| Not applicable                                                                                                                                                                              |
| Conditions and measures related to external treatment of waste for disposal                                                                                                                 |
| Not applicable                                                                                                                                                                              |
| Conditions and measures related to external recovery of waste                                                                                                                               |
| Not applicable                                                                                                                                                                              |
| <b>Section 3 Exposure Estimation</b>                                                                                                                                                        |
| <b>3.1. Health</b>                                                                                                                                                                          |
| Not applicable                                                                                                                                                                              |
| <b>3.2. Environment</b>                                                                                                                                                                     |
| Not applicable                                                                                                                                                                              |
| <b>Section 4 Guidance to check compliance with the Exposure Scenario</b>                                                                                                                    |
| <b>4.1. Health</b>                                                                                                                                                                          |
| Available hazard data do not support the need for a DNEL to be established for other health effects.[G36]<br>Risk Management Measures are based on qualitative risk characterisation. [G37] |
| <b>4.2. Environment</b>                                                                                                                                                                     |
| Not applicable                                                                                                                                                                              |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Section 1 Exposure Scenario Title</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                          |
| <b>Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                          |
| Formulation and (re)packing of substances and mixtures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                          |
| <b>Use Descriptor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                          |
| Sector(s) of Use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SU10, SU3                                                                |
| Process Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9 |
| Environmental Release Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ERC2                                                                     |
| Specific Environmental Release Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                          |
| <b>Processes, tasks, activities covered</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                          |
| Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                          |
| <b>Section 2. Operational conditions and risk management measures</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                          |
| <b>Section 2.1 Control of worker exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                          |
| <b>Product Characteristic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                          |
| Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                          |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                          |
| Covers daily exposures up to 8 hours (unless stated differently)[G2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                          |
| Covers percentage substance in the product up to 100 %[G13]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                          |
| <b>Other given operational conditions affecting workers exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                          |
| Assumes a good basic standard of occupational hygiene is implemented [G1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                          |
| <b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b><br>(only required controls to demonstrate safe use listed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                          |
| <b>General measures (Aspiration Hazard)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                          |
| The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.<br>Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.                                                                                                                                                                                                                                                           |                                                                          |
| <b>General measures (Flammable Liquid)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                          |
| Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the recast ATEX Directive 2014/34/EU. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.<br>Use in contained systems. Avoid ignition sources – No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Comply with relevant EU/national regulations. Review SDS for additional advice. |                                                                          |
| <b>Section 2.2 Control of environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                          |
| <b>Product characteristics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                          |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |
| <b>Environmental factors not influenced by risk management</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |
| <b>Other given operational conditions affecting environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                          |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |
| <b>Technical conditions and measures at process level (source) to prevent release</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                          |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                          |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>                                                                           |
| Not applicable                                                                                                                                                                              |
| <b>Organisation measures to prevent/limit release from site</b>                                                                                                                             |
| Not applicable                                                                                                                                                                              |
| <b>Conditions and measures related to municipal sewage treatment plant</b>                                                                                                                  |
| Not applicable                                                                                                                                                                              |
| <b>Conditions and measures related to external treatment of waste for disposal</b>                                                                                                          |
| Not applicable                                                                                                                                                                              |
| <b>Conditions and measures related to external recovery of waste</b>                                                                                                                        |
| Not applicable                                                                                                                                                                              |
| <b>Section 3 Exposure Estimation</b>                                                                                                                                                        |
| <b>3.1. Health</b>                                                                                                                                                                          |
| Not applicable                                                                                                                                                                              |
| <b>3.2. Environment</b>                                                                                                                                                                     |
| Not applicable                                                                                                                                                                              |
| <b>Section 4 Guidance to check compliance with the Exposure Scenario</b>                                                                                                                    |
| <b>4.1. Health</b>                                                                                                                                                                          |
| Available hazard data do not support the need for a DNEL to be established for other health effects.[G36]<br>Risk Management Measures are based on qualitative risk characterisation. [G37] |
| <b>4.2. Environment</b>                                                                                                                                                                     |
| Not applicable                                                                                                                                                                              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Section 1 Exposure Scenario Title</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |
| Title:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Use in laboratories - Industrial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Use Descriptor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |
| Sector(s) of Use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SU3    |
| Process Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PROC15 |
| Environmental Release Categories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ERC4   |
| Specific Environmental Release Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |
| <b>Processes, tasks, activities covered</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |
| Use of the substance within laboratory settings, including material transfers and equipment cleaning.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |
| <b>Section 2 Operational conditions and risk management measures</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |
| <b>Section 2.1 Control of worker exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |
| <b>Product Characteristic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |
| Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |
| Covers daily exposures up to 8 hours (unless stated differently)[G2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |
| Covers percentage substance in the product up to 100 %[G13]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |
| <b>Other given operational conditions affecting workers exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |
| Assumes a good basic standard of occupational hygiene is implemented [G1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        |
| <b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b><br>(only required controls to demonstrate safe use listed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |        |
| <b>General measures (Aspiration Hazard)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |
| The H304 risk phrase (May be fatal if swallowed and enters airways) relates to potential for aspiration, a non-quantifiable hazard determined by physico-chemical properties (i.e. viscosity) that can occur during ingestion and also if it is vomited following ingestion. A DNEL cannot be derived. Risks from the physicochemical hazards of substances can be controlled by implementing risk management measures. For substances classified as H304, the following measures need to be implemented to control the aspiration hazard.<br>Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.                                                                                                                                                                                                                                                           |        |
| <b>General measures (Flammable Liquid)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the recast ATEX Directive 2014/34/EU. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.<br>Use in contained systems. Avoid ignition sources – No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Comply with relevant EU/national regulations. Review SDS for additional advice. |        |
| <b>Section 2.2 Control of environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |
| <b>Product characteristics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| <b>Environmental factors not influenced by risk management</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| <b>Other given operational conditions affecting environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| <b>Technical conditions and measures at process level (source) to prevent release</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |
| <b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |

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| <b>Organisation measures to prevent/limit release from site</b>                                           |
| Not applicable                                                                                            |
| <b>Conditions and measures related to municipal sewage treatment plant</b>                                |
| Not applicable                                                                                            |
| <b>Conditions and measures related to external treatment of waste for disposal</b>                        |
| Not applicable                                                                                            |
| <b>Conditions and measures related to external recovery of waste</b>                                      |
| Not applicable                                                                                            |
| <b>Section 3 Exposure Estimation</b>                                                                      |
| <b>3.1. Health</b>                                                                                        |
| Not applicable                                                                                            |
| <b>3.2. Environment</b>                                                                                   |
| Not applicable                                                                                            |
| <b>Section 4 Guidance to check compliance with the Exposure Scenario</b>                                  |
| <b>4.1. Health</b>                                                                                        |
| Available hazard data do not support the need for a DNEL to be established for other health effects.[G36] |
| Risk Management Measures are based on qualitative risk characterisation. [G37]                            |
| <b>4.2. Environment</b>                                                                                   |
| Not applicable                                                                                            |

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| <b>Section 1 Exposure Scenario Title</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |        |
| Title:                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |
| Use in laboratories - Professional                                                                                                                                                                                                                                                                                                                                                                                                                               |        |
| <b>Use Descriptor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |
| Sector(s) of Use                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SU22   |
| Process Categories                                                                                                                                                                                                                                                                                                                                                                                                                                               | PROC15 |
| Environmental Release Categories                                                                                                                                                                                                                                                                                                                                                                                                                                 |        |
| Specific Environmental Release Category                                                                                                                                                                                                                                                                                                                                                                                                                          |        |
| <b>Processes, tasks, activities covered</b>                                                                                                                                                                                                                                                                                                                                                                                                                      |        |
| Use of small quantities within laboratory settings, including material transfers and equipment cleaning.                                                                                                                                                                                                                                                                                                                                                         |        |
| <b>Section 2 Operational conditions and risk management measures</b>                                                                                                                                                                                                                                                                                                                                                                                             |        |
| <b>Section 2.1 Control of worker exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                                    |        |
| <b>Product Characteristic</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |
| Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |        |
| Covers daily exposures up to 8 hours (unless stated differently)[G2]                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Covers percentage substance in the product up to 100 %[G13]                                                                                                                                                                                                                                                                                                                                                                                                      |        |
| <b>Other given operational conditions affecting workers exposure</b>                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Assumes a good basic standard of occupational hygiene is implemented [G1]                                                                                                                                                                                                                                                                                                                                                                                        |        |
| <b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b><br>(only required controls to demonstrate safe use listed)                                                                                                                                                                                                                                                                                                              |        |
| <b>General measures (Flammable Liquid)</b>                                                                                                                                                                                                                                                                                                                                                                                                                       |        |
| Risks from the physicochemical hazards of substances, such as flammability or explosiveness can be controlled by implementing risk management measures at the workplace. It is recommended to follow the recast ATEX Directive 2014/34/EU. Based on the implementation of a selection of handling and storage risk management measures for the identified uses, the risk can be regarded as controlled to an acceptable level.                                   |        |
| Use in contained systems. Avoid ignition sources – No Smoking. Handle in well ventilated area to prevent formation of explosive atmosphere. Use equipment and protective systems approved for flammable substances. Restrict line velocity during pumping to avoid generation of electrostatic discharge. Ground/bond container and receiving equipment. Use non-sparking tools. Comply with relevant EU/national regulations. Review SDS for additional advice. |        |
| <b>Section 2.2 Control of environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                                             |        |
| <b>Product characteristics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Duration, frequency and amount</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Environmental factors not influenced by risk management</b>                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Other given operational conditions affecting environmental exposure</b>                                                                                                                                                                                                                                                                                                                                                                                       |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Technical conditions and measures at process level (source) to prevent release</b>                                                                                                                                                                                                                                                                                                                                                                            |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>                                                                                                                                                                                                                                                                                                                                                |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Organisation measures to prevent/limit release from site</b>                                                                                                                                                                                                                                                                                                                                                                                                  |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Conditions and measures related to municipal sewage treatment plant</b>                                                                                                                                                                                                                                                                                                                                                                                       |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Conditions and measures related to external treatment of waste for disposal</b>                                                                                                                                                                                                                                                                                                                                                                               |        |
| Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |
| <b>Conditions and measures related to external recovery of waste</b>                                                                                                                                                                                                                                                                                                                                                                                             |        |



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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Not applicable                                                                                                                                                                              |
| <b>Section 3 Exposure Estimation</b>                                                                                                                                                        |
| <b>3.1. Health</b>                                                                                                                                                                          |
| Not applicable                                                                                                                                                                              |
| <b>3.2. Environment</b>                                                                                                                                                                     |
| Not applicable                                                                                                                                                                              |
| <b>Section 4 Guidance to check compliance with the Exposure Scenario</b>                                                                                                                    |
| <b>4.1. Health</b>                                                                                                                                                                          |
| Available hazard data do not support the need for a DNEL to be established for other health effects.[G36]<br>Risk Management Measures are based on qualitative risk characterisation. [G37] |
| <b>4.2. Environment</b>                                                                                                                                                                     |
| Not applicable                                                                                                                                                                              |

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