



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 29.08.2017

Version number 14

Revision: 29.08.2017

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

· 1.1 Product identifier

· Trade name: **KEIM LIGNOSIL-BASE-DL**

· CAS Number:

64742-48-9

· EC number:

918-481-9

· Index number:

649-327-00-6

· Registration number 01-2119457273-39-XXXX

· 1.2 Relevant identified uses of the substance or mixture and uses advised against

For this product, uses according to REACH have been identified. To provide a better readability, the uses are listed only in the annex to this safety data sheet.

· Application of the substance / the mixture

Solvent

Diluent for KEIM LIGNOSIL-BASE

· Uses advised against All other uses are not recommended.

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

KEIMFARBEN GMBH

Keimstraße 16 / 86420 Diedorf

Tel. +49 (0)821 4802-0

Fax +49 (0)821 4802-210

www.keim.com / info@keimfarben.de

· Further information obtainable from:

Product safety department

Telefon: 49(0)821/4802-138

E-Mail: sdb.info@keimfarben.de

· 1.4 Emergency telephone number:

GBK GmbH Global Regulatory Compliance

Emergency number: +49(0)6132/84463

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

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

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms

GHS08

Signal word Danger**Hazard-determining components of labelling:**

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

Hazard statements

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves / eye protection / face protection.

P301 IF SWALLOWED:

P331 Do NOT induce vomiting.

P315 Get immediate medical advice/attention.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P370+P378 In case of fire: Use for extinction: Water haze, CO₂, alcohol resistant foam.

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

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. Combustible.

Health Hazards:

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

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****3.1 Substances****CAS No. Description**

64742-48-9 Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

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- **Identification number(s)**
- **EC number:** 918-481-9
- **Index number:** 649-327-00-6
- **Description:** Dearomatised Hydrocarbons

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
When seeing the doctor we suggest to present this safety data sheet.
Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Do not use solvents or thinners.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse mouth and throat well with water.
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Later observation for pneumonia and pulmonary oedema.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Water haze, extinguishing powder, alcohol resistant foam, CO₂, sand.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
carbon oxide (CO_x)
Flammable gases/vapours
Harmful and flammable vapour is released during pyrolysis.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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In case of fire do not breathe smoke, fumes and vapours.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Keep away from ignition sources.

Do not inhale fumes.

Avoid contact with skin and eyes.

Respect the protection rules (see section 7 a. 8).

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach soil, sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Follow local governmental rules and regulations.

· **6.3 Methods and material for containment and cleaning up:**

Organic solvent

Absorb with non-combustible liquid-binding material (sand, diatomite, vermiculite).

Fill in labelled, lockable containers.

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Clear contaminated areas thoroughly.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Keep receptacles tightly sealed.

Open and handle receptacle with care.

Keep away from heat and direct sunlight.

Do not inhale aerosols.

Ensure good ventilation/exhaustion at the workplace.

See item 8 for information about suitable protective equipment and technical precautions. Respect the protection rules.

· **Information about fire - and explosion protection:**

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

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- Drip pan to be provided.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.
- **Storage class:** 10
- **7.3 Specific end use(s):** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics
Vapour. RCP - TWA 1200 mg/m³ 184 ppm Total Hydrocarbons

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

MAK (Germany)	Long-term value: 300 mg/m ³ , 50 ppm vgl. Abschn. Xc
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- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
Immediately remove all soiled and contaminated clothing
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Filter: A
- **Protection of hands:** Protective gloves
- **Material of gloves**
suitable material e.g.:
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.5 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
Value for the permeation: Level ≥ 6 (480 min)
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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- **Eye protection:** Tightly sealed goggles
- **Body protection:**
Protective work clothing
Solvent resistant protective clothing
- **Limitation and supervision of exposure into the environment** See Section 12 and 6.2

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· **Form:** Fluid
· **Colour:** Colourless

· **Odour:** Mild
· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· Change in condition

· **Melting point/freezing point:** <-25 °C
· **Initial boiling point and boiling range:** 186-214 °C (ASTM D86)

· **Flash point:** >61 °C (ASTM D93)

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 236 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** 233-255 °C

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· **Lower:** 0.6 Vol %
· **Upper:** 7 Vol %

· **Vapour pressure at 0 °C:** 30-95 Pa

· **Density at 20 °C:** 0.77-0.82* g/cm³

· **Evaporation rate:** Not determined.

· Solubility in / Miscibility with water:

Negligible
Not miscible or difficult to mix.

· **Partition coefficient: n-octanol/water:** Not determined.

· Viscosity:

· **Dynamic:** Not determined.

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Kinematic at 20 °C: 1.57* mm²/s (ASTM D7042)**· Solvent content:****VOC (EC)**

100.00 %

· 9.2 Other information

* The values are for freshly produced material and may change with the time.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions of storage and use.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Can react violently with oxygen rich (oxidising) material. Danger of Explosion.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** oxidizing agents
- **10.6 Hazardous decomposition products:**
In case of fire, the following can be released:
carbon oxide (COx)
Flammable gases/vapours
No hazardous decomposition products if stored and handled as prescribed.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:**Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics**

Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4 h	>5 mg/l (rat) (OECD 403)

- **Primary irritant effect:**
- **Skin corrosion/irritation** not primarily irritating on the skin
- **Serious eye damage/irritation** In case of longer exposure, irritating effect is possible.
- **during inhalation:** Vapours may cause drowsiness and dizziness.
- **during swallowing:**
harmful
May cause lung damage if swallowed.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Other information (about experimental toxicology):**
Experimental analysis are not available.

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The product was not tested. The statements on toxicology have been derived from the properties of the individual components.

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** not applicable
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

EC 50	>1,000 mg/l (algae)
	>1,000 mg/l (invertebrates)
LC 50	>1,000 mg/l (fish)
LC0 /96h	1,000 mg/l (fish)
EC 0/48h	1,000 mg/l (daphnia)
EC 0/72h	1,000 mg/l (algae)

· 12.2 Persistence and degradability

Easily biodegradable
80% / 28d

· 12.3 Bioaccumulative potential

No further relevant information available.

· 12.4 Mobility in soil

No further relevant information available.

· Additional ecological information:

· **According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC:**

According to our current data base the product does not consist of any heavy metals or substances of EU-directives 76/464/EWG.

· General notes:

Do not allow product to reach ground water, water course or sewage system.

At present there are no ecotoxicological assessments.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

· 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· 12.6 Other adverse effects

No further relevant information available.

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SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed with household garbage. Do not allow product to reach sewage system. Disposal must be made according to official regulations.

· European waste catalogue

14 06 03*	other solvents and solvent mixtures
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· Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number

· **ADR, IMDG, IATA** Void

· 14.2 UN proper shipping name

· **ADR, IMDG, IATA** Void

· 14.3 Transport hazard class(es)

· **ADR, IMDG, IATA**

· **Class** Void

· 14.4 Packing group

· **ADR, IMDG, IATA** Void

· 14.5 Environmental hazards:

Not applicable.

· 14.6 Special precautions for user

Not applicable.

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

SEA:

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., (EXXSOL D60, contains iso-and cycloalkanes (C10-C11))

Ship type required: 3

Pollution category: Y

· UN "Model Regulation":

Void

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
For information on labelling please refer to section 2 of this document.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
- **Please note:**
TRGS 200 (Germany)
TRGS 500 (Germany)
TRGS 510 (Germany)
TRGS 900 (Germany)
- **Substances of very high concern (SVHC) according to REACH, Article 57** not applicable
- **Product-Code/Giscode:** BSL50
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** KEIMFARBEN Germany, Product safety department
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
AGW: Arbeitsplatzgrenzwert (Germany)
EC10: Effective concentration at 10% mortality rate.
EC50: Half maximal effective concentration.
LC10: Lethal concentration at 10% mortality rate.
NOEC: No observed effect concentration.
REACH: Registration, Evaluation and Authorisation of Chemicals (Regulation (EC) No.1907/2006)
Asp. Tox. 1: Aspiration hazard – Category 1
- *** Data compared to the previous version altered.**
- **This safety data sheet contains an annex !** ____



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Annex to the Safety Data Sheet According to Article 31(7) of Regulation 1907/2006/EC (REACH)

General information:

Please send requests for additional uses or for extension of exposure scenarios to the following e-mail address: minodora.popescu@keimfarben.de

Section 1 Exposure Scenario Title	
Title:	
Manufacture of substance	
Use Descriptor	
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	
Processes, tasks, activities covered	
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	
Product Characteristic	
Liquefied Gas	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2] Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard)	
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. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	



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Not applicable
Technical conditions and measures at process level (source) to prevent release
Not applicable
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil
Not applicable
Organisation measures to prevent/limit release from site
Not applicable
Conditions and measures related to municipal sewage treatment plant
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
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
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]
4.2. Environment
Not applicable



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Section 1 Exposure Scenario Title	
Title:	
Distribution of substance	
Use Descriptor	
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	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquefied Gas	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard)	
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. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	



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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
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
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]
4.2. Environment
Not applicable



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Section 1 Exposure Scenario Title	
Title:	
Formulation and (re)packing of substances and mixtures	
Use Descriptor	
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	
Processes, tasks, activities covered	
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.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquefied Gas	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard)	
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. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	



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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
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
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]
4.2. Environment
Not applicable



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Section 1 Exposure Scenario Title	
Title:	
Use in laboratories - Industrial	
Use Descriptor	
Sector(s) of Use	SU3
Process Categories	PROC15
Environmental Release Categories	ERC4
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of the substance within laboratory settings, including material transfers and equipment cleaning.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquefied Gas	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard)	
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. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	



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Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
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]
4.2. Environment
Not applicable



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Section 1 Exposure Scenario Title	
Title:	
Use in laboratories - Professional	
Use Descriptor	
Sector(s) of Use	SU22
Process Categories	PROC15
Environmental Release Categories	
Specific Environmental Release Category	
Processes, tasks, activities covered	
Use of small quantities within laboratory settings, including material transfers and equipment cleaning.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product Characteristic	
Liquefied Gas	
Duration, frequency and amount	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13]	
Other given operational conditions affecting workers exposure	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Contributing Scenarios/Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
General measures (Aspiration Hazard)	
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. Do not ingest. If swallowed then seek immediate medical attention. Do NOT induce vomiting.	
Section 2.2 Control of environmental exposure	
Product characteristics	
Not applicable	
Duration, frequency and amount	
Not applicable	
Environmental factors not influenced by risk management	
Not applicable	
Other given operational conditions affecting environmental exposure	
Not applicable	
Technical conditions and measures at process level (source) to prevent release	
Not applicable	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Not applicable	
Organisation measures to prevent/limit release from site	
Not applicable	
Conditions and measures related to municipal sewage treatment plant	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	



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Conditions and measures related to external recovery of waste
Not applicable
Section 3 Exposure Estimation
3.1. Health
Not applicable
3.2. Environment
Not applicable
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
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]
4.2. Environment
Not applicable

- End of Safety Data Sheet -