SAFETY DATA SHEET

according to REACH Regulation (EC) No. 1907/2006, as amended by UK REACH Regulations SI 2019/758

Tri-n-propylamine
10720

Version / Revision	5	**Revision Date**	27-Oct-2022
Supersedes Version	4.00***	**Issuing date**	27-Oct-2022

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

1.1. Product identifier

Identification of the substance/preparation **Tri-n-propylamine**

CAS-No 102-69-2
EC No. 203-047-7

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

Identified uses catalyst
Uses advised against None

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification
OQ Chemicals GmbH
Rheinpromenade 4A
D-40789 Monheim
Germany

Product Information
Product Stewardship
FAX: +49 (0)208 693 2053
email: sc.psq@oq.com

1.4. Emergency telephone number

Emergency telephone number +44 (0) 1235 239 670 (UK)
available 24/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Flammable liquid Category 3, H226
Acute oral toxicity Category 3, H301
Acute dermal toxicity Category 3, H311
Acute inhalation toxicity Category 4, H332
Skin corrosion/irritation Category 1B, H314
Target Organ Systemic Toxicant - Single exposure Category 3, H335
Environmental hazard Aquatic Chronic 3; H412

Additional information
For full text of Hazard- and EU Hazard-statements see SECTION 16.

2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

Hazard pictograms

Signal word **Danger**

Hazard statements

H226: Flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H332: Harmful if inhaled.
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H412: Harmful to aquatic life with long lasting effects.

Precautionary statements

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P321: Specific treatment: IF ON SKIN: Wash off with 3% acetic acid followed by large amounts of plain water for at least 5 min as a final step.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.
P361: Take off immediately all contaminated clothing.
P403 + P235: Store in a well ventilated place. Keep cool.

2.3. Other hazards

Components of the product may be absorbed into the body through the skin
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Vapour/air-mixtures are explosive at intense warming

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

Endocrine disrupting assessments The substance is not listed on the candidate list according to Art. 59(1), REACh. The substance was not assessed as having endocrine disrupting properties according to regulation 2017/2100/EU or 2018/605/EU.

SECTION 3: Composition / information on ingredients

3.1. Substances

Component	CAS-No	1272/2008/EC	Concentration (%)
Tripropylamine	102-69-2	Flam. Liq. 3; H226	> 98,5

		Acute Tox. 3; H301 Acute Tox. 3; H311 Acute Tox. 4; H332 Skin Corr. 1B; H314 STOT SE 3; H335 Aquatic Chronic 3; H412 ATE = 200 mg/kg (oral) ATE = 430 mg/kg (dermal) ATE = 4,5 mg/L*** (inhalation) (dust/mist)***	

For full text of Hazard- and EU Hazard-statements see SECTION 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Keep at rest. Aerate with fresh air. Call a physician immediately. Symptoms of poisoning may develop many hours after exposure.

Skin
Wash off with 3% acetic acid followed by large amounts of plain water for at least 5 min as a final step. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eyes
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion
Call a physician immediately. Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Main symptoms
shortness of breath, convulsions, cough, hypertensive effect.

Special hazard
Stomach perforation, Lung oedema.

4.3. Indication of any immediate medical attention and special treatment needed

General advice
Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat as an alkaline substance (similar to ammonia). If ingested, irrigate the stomach. Treat skin and mucous membranes with antihistamine and corticoids. In case of lung irritation, first treatment with cortisone spray. Symptoms may be delayed. Later control for pneumonia and lung oedema.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
alcohol-resistant foam, dry chemical, carbon dioxide (CO2), water spray

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of:
carbon monoxide (CO)
carbon dioxide (CO2)
nitrogen oxides (NOx)
Combustion gases of organic materials must in principle be graded as inhalation poisons
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Vapour/air-mixtures are explosive at intense warming

5.3. Advice for firefighters

Special protective equipment for firefighters
Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting
Cool containers / tanks with water spray. Water run-off and vapor cloud may be corrosive. Water run-off can cause environmental damage. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.
For emergency responders: Personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant). Water runoff can cause environmental damage.

6.3. Methods and material for containment and cleaning up

Methods for containment
Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up
Soak up with inert absorbent material. DO NOT use combustible materials such as sawdust. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Further info may be available in the appropriate Exposure scenarios in the annex to this SDS.

Advice on safe handling
Avoid contact with skin, eyes and clothing. Do not use compressed air for filling, discharging or handling. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms. Refill and handle product only in closed system.

Hygiene measures
When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment
See Section 8: Environmental exposure controls.

Incompatible products
strong acids
oxidizing agents
Halogenated hydrocarbon

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback. Vapour/air-mixtures are explosive at intense warming.

Technical measures/Storage conditions
Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Handle under nitrogen, protect from moisture. Keep at temperatures between -18 and 38 °C (0 and 100 °F).

Suitable material
stainless steel, mild steel, Polyethylene

Unsuitable material
copper, Aluminium, zinc, including their alloys

Temperature class
T4

7.3. Specific end use(s)

catalyst
For specific end use information see the annex of this safety data sheet

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits European Union

No exposure limits established

Exposure limits UK

No exposure limits established.

DNEL & PNEC

Tripropylamine, CAS: 102-69-2
Workers

DN(M)EL - long-term exposure - systemic effects - Inhalation	5,84 mg/m³
DN(M)EL - acute / short-term exposure - systemic effects - Inhalation	11,7 mg/m³
DN(M)EL - long-term exposure - local effects - Inhalation	5,84 mg/m³
DN(M)EL - acute / short-term exposure - local effects - Inhalation	11,7 mg/m³
DN(M)EL - long-term exposure - systemic effects - Dermal	0,83 mg/kg bw/day
DN(M)EL - acute / short-term exposure - systemic effects - Dermal	5,97 mg/kg bw/day
DN(M)EL - long-term exposure - local effects - Dermal	High hazard (no threshold derived)
DN(M)EL - acute / short-term exposure - local effects - Dermal	High hazard (no threshold derived)
DN(M)EL - local effects - eyes	No hazard identified

Environment

PNEC aqua - freshwater	0,025 mg/l
PNEC aqua - marine water	0,0025 mg/l
PNEC aqua - intermittent releases	0,25 mg/l
PNEC STP	100 mg/l
PNEC sediment - freshwater	0,859 mg/kg
PNEC sediment - marine water	0,086 mg/kg
PNEC Air	No hazard identified
PNEC soil	0,157 mg/kg
PNEC oral	1330 000 mg/kg

8.2. Exposure controls

Special adaptations (REACh)
Not applicable.

Appropriate Engineering controls
General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General industrial hygiene practice
Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures
When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Eye protection
Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash

to the face.
Equipment should conform to EN 166

Hand protection
Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material	nitrile rubber
Evaluation	according to EN 374: level 6
Glove thickness	approx 0,55 mm
Break through time	> 480 min

Suitable material	polyvinylchloride
Evaluation	Information derived from practical experience
Glove thickness	approx 0,8 mm

Skin and body protection
Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Respiratory protection
Respirator with A filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

Environmental exposure controls
Use product only in closed system. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

Additional advice
For specific exposure controls see the annex to this safety data sheet. Further details on substance data can be found in the registration dossier under the following link:
http://echa.europa.eu/information-on-chemicals/registered-substances.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid***
Colour	colourless
Odour	ammonia-like
Odour threshold	No data available
Melting point/freezing point	< -90 °C (Pour point)
Method	DIN ISO 3016
Boiling point or initial boiling point and boiling range	156,4 °C @ 1013 hPa
Method	OECD 103
Flammability	Ignitable
Lower explosion limit	0,7 Vol %
Upper explosion limit	5,6 Vol %
Flash point	33 °C
Method	ISO 2719
Autoignition temperature	180 °C @ 1012 hPa
Method	DIN 51794
Decomposition temperature	No data available

pH	10,5 (0,1 g/l in water @ 25 °C (77 °F)) DIN 19268
Kinematic Viscosity	0,896 mm²/s @ 20 °C***
Method	ASTM D445***
Solubility	No data available
Water solubility	444 mg/l @ 20 °C
Partition coefficient n-octanol/water (log value)	0,9 @ 25 °C (77 °F) OECD 117

Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
4,3	0,43	0,034	20	68	
22,3	2,23	0,023	50	122	

Density and/or relative density

Values	@ °C	@ °F	Method
0,7557	20	68	DIN 51757

Relative vapour density	4,93 (Air = 1) @ 20 °C (68 °F)
Particle characteristics	not applicable

9.2. Other information

Explosive properties	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties
Oxidizing properties	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties
Molecular weight	143,27
Molecular formula	C9 H21 N
Dissociation constant	pKa 10,65 @ 20 °C (68 °F)
Refractive index	1,417 @ 20 °C
Surface tension	61,6 mN/m (0,4 g/l @ 20°C (68°F)), OECD 115
Evaporation rate	No data available

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

10.5. Incompatible materials

strong acids, oxidizing agents, halogenated hydrocarbon.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed. If heated to thermal decomposition the following decomposition products may occur depending on the conditions. carbon monoxide (CO). nitrogen oxides (NOx). cyanides. nitric acid. nitriles.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

Acute toxicity				
Tripropylamine (102-69-2)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	200 - 2000 mg/kg	rat, male/female	OECD 401
Dermal	LD50	430 mg/kg	rabbit male	
Inhalative	LC50	4,5 mg/l (1h)	rat male	

Tripropylamine, CAS: 102-69-2
Assessment
The available data lead to the classification given in section 2

Irritation and corrosion				
Tripropylamine (102-69-2)				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	corrosive		
Eyes	rabbit	No eye irritation		

Tripropylamine, CAS: 102-69-2
Assessment
The available data lead to the classification given in section 2
For respiratory irritation, no data are available

Sensitization				
Tripropylamine (102-69-2)				
Target Organ Effects	Species	Evaluation	Method	
Skin	guinea pig	not sensitizing	EPA OTS 798.4100 read across	

Tripropylamine, CAS: 102-69-2
Assessment
Based on available data, the classification criteria are not met for:
Skin sensitization
For respiratory sensitization, no data are available

Subacute, subchronic and prolonged toxicity				
Tripropylamine (102-69-2)				
Type	Dose	Species	Method	
Subchronic toxicity	NOAEL: 40 mg/kg/d (42d)	rat, male/female	OECD 422 Oral	read across
Subchronic toxicity	NOAEC: 1444,4 mg/m³ (28 d) Local effects	rat, male/female	OECD 413 Inhalation	read across
Subchronic toxicity	NOAEC: 146,2 mg/m³ (28 d)	rat, male/female	OECD 413 Inhalation	read across

	systemic effects			

Tripropylamine, CAS: 102-69-2
Assessment
Based on available data, the classification criteria are not met for:
STOT RE

Carcinogenicity, Mutagenicity, Reproductive toxicity					
Tripropylamine (102-69-2)					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	
Mutagenicity		human lymphocytes	negative	OECD 487	
Mutagenicity		mouse lymphoma cells	negative	OECD 476 (Mammalian Gene Mutation)	
Reproductive toxicity	NOAEL 40 mg/kg/d	rat, parental		OECD 422, Oral	read across
Reproductive toxicity	NOAEL 200 mg/kg/d	rat, 1. Generation, male/female		OECD 422, Oral	read across
Developmental Toxicity	NOAEL 45 mg/kg/d	rat		OECD 414, Oral	Maternal toxicity read across
Developmental Toxicity	NOAEL 135 mg/kg/d	rat		OECD 414, Oral	Developmental toxicity read across

Tripropylamine, CAS: 102-69-2
CMR Classification
The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B
Evaluation
In vitro tests did not show mutagenic effects
No developmental effects in the absence of maternal toxicity
Did not show reprotoxic effects in animal experiments
For carcinogecity, no data are available

Tripropylamine, CAS: 102-69-2
Main symptoms
shortness of breath, convulsions, cough, hypertensive effect.
Target Organ Systemic Toxicant - Single exposure
The available data lead to the classification given in section 2
Target Organ Systemic Toxicant - Repeated exposure
Based on available data, the classification criteria are not met for:
STOT RE

11.2. Information on other hazards

Endocrine disrupting properties
The substance has not been identified as having endocrine disrupting properties in accordance with section 2.3.
Tripropylamine, CAS: 102-69-2
Other adverse effects
Components of the product may be absorbed into the body through the skin.
Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link: http://echa.europa.eu/information-on-chemicals/registered-substances.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity			
Tripropylamine (102-69-2)			
Species	Exposure time	Dose	Method
Leuciscus idus (Golden orfe)	96h	LC50: 38,3 mg/l	DIN 38412, part 15
Daphnia magna (Water flea)	48h	EC50: 99 mg/l (not neutralized)	DIN 38412, part 11
Desmodesmus subspicatus	96h	EC50: 24,8 mg/l (Growth rate)	DIN 38412, part 9
Desmodesmus subspicatus	96h	EC50: 15,1 mg/l (Biomass)	DIN 38412, part 9
Activated sludge (domestic)	30 min	EC50: > 1000 mg/l	ISO 8192
Activated sludge (industrial)	30 min	EC50: > 2104 mg/l	ISO 8192

12.2. Persistence and degradability

Tripropylamine, CAS: 102-69-2
Biodegradation
0 - 10 % (28 d), Sewage, aerobic, OECD 301 E.

Abiotic Degradation		
Tripropylamine (102-69-2)		
Type	Result	Method
Hydrolysis	not expected	
Photolysis	Half-life (DT50): 0,105 days	calculated

12.3. Bioaccumulative potential

Tripropylamine (102-69-2)		
Type	Result	Method
BCF	32,2, (calculated)	QSAR
log Pow	0,9 @ 25 °C	OECD 117

12.4. Mobility in soil

Tripropylamine (102-69-2)		
Type	Result	Method
Surface tension	61,6 mN/m (0,4 g/l @ 20°C (68°F))	OECD 115

12.5. Results of PBT and vPvB assessment

Tripropylamine, CAS: 102-69-2

PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

12.6. Endocrine disrupting properties

The substance has not been identified as having endocrine disrupting properties in accordance with section 2.3.

12.7. Other adverse effects

Tripropylamine, CAS: 102-69-2
No data available

Note
Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information
Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.
Hazardous waste according to European Waste Catalogue (EWC)

Uncleaned empty packaging
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

ADR/RID

14.1. UN number or ID number	UN 2260
14.2. UN proper shipping name	Tripropylamine
14.3. Transport hazard class(es)	3
Subsidiary Risk	8
14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	
ADR Tunnel restriction code	(D/E)
Classification Code	FC
Hazard Number	38

ADN ADN Container

14.1. UN number or ID number	UN 2260
14.2. UN proper shipping name	Tripropylamine
14.3. Transport hazard class(es)	3
Subsidiary Risk	8

14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	
Classification Code	FC
Hazard Number	38

ADN

ADN Tanker
forbidden

ICAO-TI / IATA-DGR

14.1. UN number or ID number	UN 2260
14.2. UN proper shipping name	Tripropylamine
14.3. Transport hazard class(es)	3
Subsidiary Risk	8
14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	no data available

IMDG

14.1. UN number or ID number	UN 2260
14.2. UN proper shipping name	Tripropylamine
14.3. Transport hazard class(es)	3
Subsidiary Risk	8
14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	
EmS	F-E, S-C
14.7. Maritime transport in bulk according to IMO instruments	not applicable***

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation 1272/2008, Annex VI
not listed

DI 2012/18/EU (Seveso III)
Category Annex I, part 1:
P5a - c; depending on conditions

DI 1999/13/EC (VOC Guideline)

Component	Status
Tripropylamine CAS: 102-69-2	regulated

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 No. 758

Component	Status
Tripropylamine CAS: 102-69-2	The substance will not be pre-registered

For details and further information please refer to the original regulation.

International Inventories

Tripropylamine, CAS: 102-69-2
AICS (AU)
NDSL (CA)
IECSC (CN)
EC-No. 2030477 (EU)
ENCS (2)-3553 (JP)
ISHL 2-(10)-60 (JP)
KECI KE-12235 (KR)
INSQ (MX)
PICCS (PH)
TSCA (US)
NZIoC (NZ)
TCSI (TW)

National regulatory information Great Britain

Releases to air (Pollution Inventory Substances)
not subject

Releases to water (Pollution Inventory Substances)
not subject

Releases to sewer (Pollution Inventory Substances)
not subject
For details and further information please refer to the original regulation

15.2. Chemical safety assessment

The Chemical Safety Report (CSR) has been generated. For Exposure Scenarios see the annex.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3
H226: Flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H412: Harmful to aquatic life with long lasting effects.

Abbreviations
A table of terms and abbreviations can be found under the following link:

http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf

Training advice
For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet
Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet
Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage (www.chemicals.oq.com).

Disclaimer
For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ Chemicals makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

End of Safety Data Sheet

Annex to the extended Safety Data Sheet (eSDS)

General information
The substance is handled under strictly controlled conditions throughout the life cycle
No exposure assessment presented for human health.

Exposure scenario identification

1 Catalyst Use

Number of the ES 1

Short title of the exposure scenario
Catalyst Use

Sector of uses [SU]
SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites

Environmental release categories [ERC]
ERC6b: Industrial use of reactive processing aids

Product characteristics
Refer to attached safety data sheets

Processes and activities covered by the exposure scenario
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.

Further explanations
Industrial use
Assumes use at not more than 20°C above ambient temperature (unless stated differently)
Assumes an advanced standard of occupational Health and Safety Management System

Contributing Scenarios

Number of the contributing scenario **1**
Contributing exposure scenario controlling environmental exposure for ERC 6b

Further specification

assessment tool used: Chesar 3.3 release factors for (Sp)ERC were modified
Product characteristics
Covers percentage substance in the product up to 100 % (unless stated differently).
Amounts used
Daily amount per site: 1.7 to
Annual amount per site: 590 to
Fraction of Regional tonnage used locally: 1
Technical conditions and measures at process level (source) to prevent release
Release fraction to air from process: 0.1%
Release fraction to wastewater from process: 5%
Release fraction to soil from process: 0.025%
Conditions and measures related to municipal sewage treatment plant
Size of municipal sewage system/ treatment plant (m^3/d): 1.26E6
Water flow in sewage/river (m^3/day): 1.67E8
The minimum grade of elimination in the sewage plant is (%): 3.735
Do not apply industrial sludge to natural soils
Conditions and measures related to external treatment of waste for disposal
Dispose of waste product or used containers according to local regulations

Exposure estimation and reference to its source

Environment
PEC = predicted environmental concentration (local); RCR = risk characterisation ratio

Fresh Water (Pelagic)	PEC: 4.1E-4 mg/l; RCR: 0.016
Fresh Water (Sediment)	PEC: 0.014 mg/kg dw; RCR: 0.016
Marine Water (Pelagic)	PEC: 1.72E-5 mg/l; RCR: < 0.01
Marine Water (Sediment)	PEC: 5.92E-4 mg/kg dw; RCR: < 0.01
Agricultural Soil	PEC: 5.58E-4 mg/kg dw; RCR: < 0.01
Sewage Treatment Plant (Effluent)	PEC: 6.46E-4 mg/l; RCR: < 0.01
Predator's prey (freshwater)	PEC: 8.54E-3 mg/kg ww; RCR: < 0.01
Predator's prey (marine water)	PEC: 4.47E-4 mg/kg ww; RCR: < 0.01
Top predator's prey (marine water)	PEC: 3.67E-4 mg/kg ww; RCR: < 0.01
Predator's prey (terrestial)	PEC: 6.8E-5 mg/kg ww; RCR: < 0.01

List of use descriptors

Contributing Scenarios

Exposure estimation and reference to its source