

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Reference number: 00307 Issue date: 12/26/2023 Revision date: 12/26/2023 Supersedes version of: 4/15/2016 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking		
1.1. Product identifier		
Product form Trade name EC Index-No. EC-No. CAS-No. Product code Type of product Formula Chemical structure	: Substance : TETRAHYDROFURAN FOR HPLC & SPECTROSCOPY : 603-025-00-0 : 203-726-8 : 109-99-9 : 00307 : Solvents : C4H8O : 	
Synonyms	: Oxolane, 1,4-Butylene oxide, Tetra-methylene oxide, THF	
1.2. Relevant identified uses of the substa	nce or mixture and uses advised against	
1.2.1. Relevant identified uses		
Use of the substance/mixture Use of the substance/mixture	: Laboratory chemicals, Manufacture of substances : Solvents	
1.2.2. Uses advised against		
No additional information available		
1.3. Details of the supplier of the safety da	ita sheet	
LOBA CHEMIE PVT.LTD. 107 Wode House Road, Jehangir Villa, Colaba 400005 Mumbai INDIA T +91 22 6663 6663, F +91 22 6663 6699 info@lobachemie.com, www.lobachemie.com		
1.4. Emergency telephone number		
Emergency number	: + 91 22 6663 6663 (9:00am - 6:00 pm)	
SECTION 2: Hazards identification		
2.1. Classification of the substance or mix	ture	
Classification according to Regulation (EC) No.	1272/2008 [CLP]	
Flammable liquids, Category 2 Acute toxicity (oral), Category 4 Serious eye damage/eye irritation, Category 2 Carcinogenicity, Category 2	H225 H302 H319 H351	

Respiratory tract irritation

Specific target organ toxicity – Single exposure, Category 3,

Full text of H- and EUH-statements: see section 16

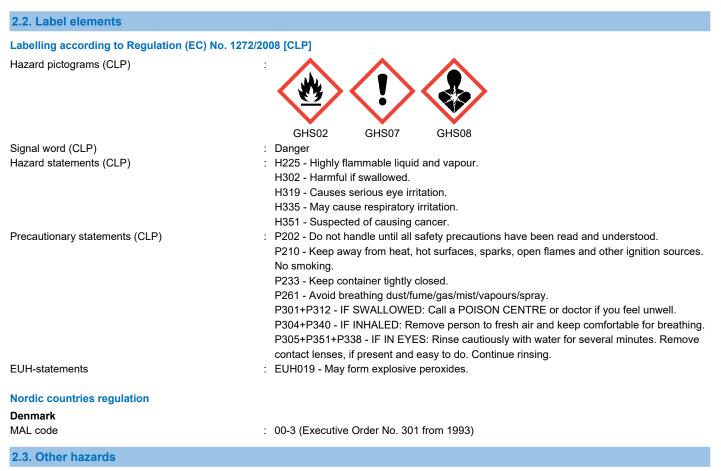
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Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Suspected of causing cancer. Harmful if swallowed. May cause respiratory irritation. Causes serious eye irritation.



Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients		
3.1. Substances		
Substance type Name CAS-No. EC-No. EC Index-No.	: Mono-constituent : TETRAHYDROFURAN : 109-99-9 : 203-726-8 : 603-025-00-0	
Name	Product identifier	%
TETRAHYDROFURAN	CAS-No.: 109-99-9 EC-No.: 203-726-8	100

EC Index-No.: 603-025-00-0

3.2. Mixtures

Not applicable

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SECTION 4: First aid measures		
4.1. Description of first aid measures		
First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.	
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.	
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.	
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. If eye irritation persists: Get medical advice/attention.	
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Get medical advice/attention. Call a poison center or a doctor if you feel unwell.	
4.2. Most important symptoms and effects, both acute and delayed		
Symptoms/effects after inhalation Symptoms/effects after skin contact Symptoms/effects after eye contact Symptoms/effects after ingestion	 May cause respiratory irritation. None under normal conditions. Causes serious eye irritation. Eye irritation. None under normal conditions. 	

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

Treat symptomatically.

SECTION 5: Firefighting measures		
5.1. Extinguishing media		
Suitable extinguishing media Unsuitable extinguishing media	Carbon dioxide. Dry powder. Foam. Water spray.Do not use extinguishing media containing water.	
5.2. Special hazards arising from the substance or mixture		
Fire hazard Explosion hazard Hazardous decomposition products in case of fire	 Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May form explosive peroxides. Toxic fumes may be released. 	
5.3. Advice for firefighters		
Firefighting instructions Protection during firefighting	 DO NOT fight fire when fire reaches explosives. Evacuate area. Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. 	

SECTION 6: Accidental release measures		
6.1. Personal precautions, protect	tive equipment and emergency procedures	
General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.	
6.1.1. For non-emergency personnel		
Protective equipment Emergency procedures	 Wear recommended personal protective equipment. Ventilate spillage area. Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. 	

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6.1.2. For emergency responders	
Protective equipment	Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.
6.2. Environmental precautions	
Avoid release to the environment.	
6.3. Methods and material for conta	ainment and cleaning up
For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Take up liquid spill into absorbent material. On land, sweep or shovel into suitable containers. Collect spillage. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.
6.4. Reference to other sections	

For further information refer to section 13.

Precautions for safe handling : Avoid contact only outdoors	containers with care because residual vapours are flammable. Hazardous potential risk of explosion. with skin and eyes. Use only non-sparking tools. Do not breathe vapours. Use or in a well-ventilated area. Keep away from sources of ignition - No smoking.	
Precautions for safe handling waste due to p Avoid contact only outdoors	potential risk of explosion. with skin and eyes. Use only non-sparking tools. Do not breathe vapours. Use	
Precautions for safe handling : Avoid contact only outdoors	with skin and eyes. Use only non-sparking tools. Do not breathe vapours. Use	
smoking. Grou against static explosion-pro before use. Do	om heat, hot surfaces, sparks, open flames and other ignition sources. No und/bond container and receiving equipment. Take precautionary measures discharge. Flammable vapours may accumulate in the container. Use of equipment. Wear personal protective equipment. Obtain special instructions o not handle until all safety precautions have been read and understood. ng dust/fume/gas/mist/vapours/spray.	
with mild soap	ink or smoke when using this product. Wash hands and other exposed areas and water before eating, drinking or smoking and when leaving work. Always fter handling the product.	
7.2. Conditions for safe storage, including any incompatibilities		
	ling procedures to avoid static electricity should be followed. Ground/bond receiving equipment.	
	oof place. Keep container tightly closed. Store in a well-ventilated place. Keep	
Incompatible products : Oxidizing age	nt.	
Incompatible materials : Heat sources.		
Packaging materials : Store always	product in container of same material as original container.	

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

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8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection: Chemical goggles or safety glasses

8.2.2.2. Skin protection

Skin and body protection: Wear a mask

Hand protection: Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection: Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties		
9.1. Information on basic phy	ysical and chemical properties	
Physical state	: Liquid	
Colour	Colourless.	
Appearance	: Clear liquid.	
Molecular mass	: 72.11 g/mol	
Odour	: ether odor.	
Odour threshold	: Not available	
Melting point	: -108 °C	
Freezing point	: Not available	
Boiling point	: 65 – 67 °C	
Flammability	: Flammable	
	Highly flammable liquid and vapour.	

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Explosive properties	: May form explosive peroxides.
Lower explosion limit	: 2 vol %
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Upper explosion limit	: 11.8 vol %
Flash point	: -14 °C
Auto-ignition temperature	: 321 °C
Decomposition temperature	: Not available
рН	: 7 – 8 at 20°C
Viscosity, kinematic	: Not available
Solubility	: Water: Miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 132 mm Hg at 20°C
Vapour pressure at 50°C	: Not available
Density	: 0.886 – 0.888 g/cm³ at 20°C
Relative density	: Not available
Relative vapour density at 20°C	: 2.5 (Air = 1)
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosion limits

: 0.018 – 0.118 vol %

9.2.2. Other safety characteristics

Refractive index

: 1.407 - 1.409 (20 °C, 589 nm)

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions. May form explosive peroxides.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

10.4. Conditions to avoid

Open flame. Heat. Sparks. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

May release flammable gases. May form explosive peroxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes	as defined in Regulation (EC) No 1272/2008
Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified pH: 7 – 8 at 20°C
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7 – 8 at 20°C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

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Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information	
12.1. Toxicity	
(acute)	 The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Not classified Not classified
12.2. Persistence and degradability	
TETRAHYDROFURAN FOR HPLC & SPECTR	ROSCOPY (109-99-9)
Persistence and degradability	Rapidly degradable
12.3. Bioaccumulative potential	
No additional information available	
12.4. Mobility in soil	
No additional information available	
12.5. Results of PBT and vPvB assessment	
No additional information available	
12.6. Endocrine disrupting properties	
No additional information available	

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations	
13.1. Waste treatment methods	
Regional waste regulation Waste treatment methods Sewage disposal recommendations Product/Packaging disposal recommendations	 Disposal must be done according to official regulations. Dispose of contents/container in accordance with licensed collector's sorting instructions. Disposal must be done according to official regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done
Additional information	 according to official regulations. Handle empty containers with care because residual vapours are flammable. Hazardous waste due to potential risk of explosion. Flammable vapours may accumulate in the container. Do not re-use empty containers.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

: 3 : 3

: 3

: 3 :

: 3 : 3

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14.1. UN number or ID number	
UN-No. (ADR) UN-No. (IMDG) UN-No. (IATA) UN-No. (ADN) UN-No. (RID)	 : UN 2056
14.2. UN proper shipping name	
Proper Shipping Name (ADR) Proper Shipping Name (IMDG) Proper Shipping Name (IATA) Proper Shipping Name (ADN) Proper Shipping Name (RID) Transport document description (ADR) Transport document description (IMDG) Transport document description (IATA) Transport document description (ADN) Transport document description (RID)	 TETRAHYDROFURAN TETRAHYDROFURAN Tetrahydrofuran TETRAHYDROFURAN TETRAHYDROFURAN UN 2056 TETRAHYDROFURAN, 3, II, (D/E) UN 2056 TETRAHYDROFURAN, 3, II (< -18°C c.c.) UN 2056 TETRAHYDROFURAN, 3, II UN 2056 TETRAHYDROFURAN, 3, II UN 2056 TETRAHYDROFURAN, 3, II
14.3. Transport hazard class(es)	
ADR Transport hazard class(es) (ADR) Danger labels (ADR)	
IMDG Transport hazard class(es) (IMDG) Danger labels (IMDG)	

ΙΑΤΑ

Transport hazard class(es) (IATA) Danger labels (IATA)

ADN

Transport hazard class(es) (ADN) Danger labels (ADN)

RID

Transport hazard class(es) (RID)	
Danger labels (RID)	

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	:
	3
14.4. Packing group	
Packing group (ADR)	: 11
Packing group (IMDG)	: 11
Packing group (IATA)	:
Packing group (ADN) Packing group (RID)	: II : II
14.5. Environmental hazards	. "
	N.
Dangerous for the environment Marine pollutant	: No : No
Other information	No supplementary information available
14.6. Special precautions for user	
Overland transport Classification code (ADR)	: F1
Limited quantities (ADR)	: 11
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	33
	2056
Tunnel restriction code (ADR)	: D/E
EAC code	: •2YE
Transport by sea	
Limited quantities (IMDG)	: 1L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001 : IBC02
IBC packing instructions (IMDG) Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: B
Flash point (IMDG)	: below -18°C c.c.
Properties and observations (IMDG)	: Colourless liquid with an ethereal odour. Flashpoint: below -18°C c.c. Explosive limits: 1.5% to 12% Miscible with water.
MFAG-No	: 127
Air transport	
PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L : 252
PCA packing instructions (IATA) PCA max net quantity (IATA)	: 353 : 5L
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CAO packing instructions (IATA) CAO max net quantity (IATA) ERG code (IATA)	:	364 60L 3H
Inland waterway transport Classification code (ADN) Limited quantities (ADN) Excepted quantities (ADN) Carriage permitted (ADN) Equipment required (ADN) Ventilation (ADN) Number of blue cones/lights (ADN)	:	F1 1 L E2 T PP, EX, A VE01 1
Rail transport Classification code (RID) Limited quantities (RID) Excepted quantities (RID) Packing instructions (RID) Mixed packing provisions (RID) Portable tank and bulk container instructions (RID) Portable tank and bulk container special provisions	:	F1 1L E2 P001, IBC02, R001 MP19 T4 TP1
(RID) Tank codes for RID tanks (RID) Transport category (RID) Colis express (express parcels) (RID) Hazard identification number (RID)	:	LGBF 2 CE7 33

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	Applicable on
3(a)	TETRAHYDROFURAN FOR HPLC & SPECTROSCOPY
3(b)	TETRAHYDROFURAN FOR HPLC & SPECTROSCOPY
40.	TETRAHYDROFURAN FOR HPLC & SPECTROSCOPY

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

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Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

Germany

Water hazard class (WGK) Hazardous Incident Ordinance (12. BImSchV)	 WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 190). Is not subject of the Hazardous Incident Ordinance (12. BImSchV)
Netherlands	
SZW-lijst van kankerverwekkende stoffen SZW-lijst van mutagene stoffen	: The substance is not listed : The substance is not listed
SZW-lijst van reprotoxische stoffen – Borstvoeding SZW-lijst van reprotoxische stoffen –	: The substance is not listed : The substance is not listed
Vruchtbaarheid SZW-lijst van reprotoxische stoffen – Ontwikkeling	: The substance is not listed
Denmark	
MAL code Classification remarks Danish National Regulations	 : 00-3 (Executive Order No. 301 from 1993) : Emergency management guidelines for the storage of flammable liquids must be followed : Young people below the age of 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level

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Abbreviations and acronyms:		
DNEL	Derived-No Effect Level	
EC-No.	European Community number	
EC50	Median effective concentration	
EN	European Standard	
IARC	International Agency for Research on Cancer	
ΙΑΤΑ	International Air Transport Association	
IMDG	International Maritime Dangerous Goods	
LC50	Median lethal concentration	
LD50	Median lethal dose	
LOAEL	Lowest Observed Adverse Effect Level	
NOAEC	No-Observed Adverse Effect Concentration	
NOAEL	No-Observed Adverse Effect Level	
NOEC	No-Observed Effect Concentration	
OECD	Organisation for Economic Co-operation and Development	
OEL	Occupational Exposure Limit	
РВТ	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail	
SDS	Safety Data Sheet	
STP	Sewage treatment plant	
ThOD	Theoretical oxygen demand (ThOD)	
TLM	Median Tolerance Limit	
VOC	Volatile Organic Compounds	
CAS-No.	Chemical Abstract Service number	
N.O.S.	Not Otherwise Specified	
vPvB	Very Persistent and Very Bioaccumulative	
ED	Endocrine disrupting properties	

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Carc. 2	Carcinogenicity, Category 2
EUH019	May form explosive peroxides.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

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Full text of H- and EUH-statements:	
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.