TETRAETHYLLEAD

Safety Data Sheet PBL6459.5

Issue date: 02/04/2015 Revision date: 11/04/2022 Version: 2.3

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

1.1. Product identifier

Product form	:	Substance
Physical state	:	Liquid
Substance name	:	TETRAETHYLLEAD
Product code	:	PBL6459.5
Formula	:	C8H20Pb
Synonyms	:	TETRAETHYL; TETRAETHYLPLUMBANE
Chemical family	:	METAL COMPOUND

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestde.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 2	H300
Acute toxicity (dermal), Category 4	H312
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS06 GHS09

Signal word (CLP)	:	Danger
Hazard statements (CLP)	:	H300 - Fatal if swallowed. H312 - Harmful in contact with skin. H335 - May cause respiratory irritation. H400 - Very toxic to aquatic life.
Precautionary statements (CLP)	:	P280 - Wear protective gloves/protective clothing/eye protection/face protection. P261 - Avoid breathing vapours. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P273 - Avoid release to the environment. P312 - Call a doctor if you feel unwell.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	:	Mono-constituent
Name	:	TETRAETHYLLEAD
CAS-No.	:	78-00-2
EC-No.	:	201-075-4

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetraethyllead substance listed as REACH Candidate	(CAS-No.) 78-00-2 (EC-No.) 201-075-4	95 – 100	Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 STOT SE 3, H335 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	:	Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation	:	Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	:	Wash with plenty of water/….
First-aid measures after eye contact	:	Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	:	Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

Symptoms/effects after inhalation	:	May cause respiratory irritation. Volatile compounds of lead should be treated with extreme caution.
Symptoms/effects after skin contact	:	May cause skin irritation.
Symptoms/effects after eye contact	:	May cause eye irritation.
Symptoms/effects after ingestion	:	Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	:	Exposure: Affects the central nervous system most strongly, with relatively little impact on hematopoietic organs. Immediate symptoms include dizziness, headaches, insomnia, loss of appetite. Progressive symptoms include mental euphoria, hallucinations, paranoia and death.

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

Physician note: Diagnostic mobilization of lead with calcium EDTA may be useful in questionable cases.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Water spray. Foam. Carbon dioxide. Dry chemical.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapour and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

6.2. Environmental precautions

Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Use only non-sparking tools.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Keep container tightly closed. Store < 5°C.

Incompatible materials : Air.

Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Tetraethyllead (78-00-2)		
Austria	MAK (OEL TWA)	0.05 mg/m³
Austria	MAK (OEL STEL)	0.2 mg/m³
Belgium	OEL TWA	0.1 mg/m³
Bulgaria	OEL TWA	0.05 mg/m³
France	VME (OEL TWA)	0.1 mg/m³
Germany	AGW (OEL TWA) [1]	0.05 mg/m³ (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed)
Germany	Biological limit value	25 µg/l (Medium: urine - Time: end of shift - Parameter: Diethyl lead (measured as Pb)) 50 µg/l (Medium: urine - Time: end of shift - Parameter: Total lead (applies also for mixtures with Tetraethyl lead)
Greece	OEL TWA	0.1 mg/m³
Italy - Portugal - USA ACGIH	ACGIH OEL TWA	0.1 mg/m³
Latvia	OEL TWA	0.005 mg/m³
USA IDLH	IDLH	40 mg/m³
USA NIOSH	NIOSH REL TWA	0.075 mg/m³
USA OSHA	OSHA PEL TWA [1]	0.075 mg/m³

Tetraethyllead (78-00-2)		
Spain	VLA-ED (OEL TWA) [1]	0.1 mg/m³
Switzerland	KZGW (OEL STEL)	0.1 mg/m³
Switzerland	MAK (OEL TWA) [1]	0.05 mg/m³
Czech Republic	PEL (OEL TWA)	0.05 mg/m³
Denmark	OEL TWA [1]	0.05 mg/m³
Denmark	OEL TWA [2]	0.007 ppm
Finland	HTP (OEL TWA) [1]	0.075 mg/m³
Finland	HTP (OEL STEL)	0.23 mg/m³
Hungary	AK (OEL TWA)	0.05 mg/m³
Hungary	CK (OEL STEL)	0.2 mg/m³
Ireland	OEL TWA [1]	0.1 mg/m³
Ireland	OEL STEL	0.3 mg/m³ (calculated)
Lithuania	IPRV (OEL TWA)	0.05 mg/m³
Lithuania	TPRV (OEL STEL)	0.2 mg/m³
Norway	Grenseverdi (OEL TWA) [1]	0.075 mg/m³
Norway	Grenseverdi (OEL TWA) [2]	0.01 ppm
Norway	Korttidsverdi (OEL STEL)	0.075 mg/m³
Norway	Korttidsverdi (OEL STEL) [ppm]	0.01 ppm
Poland	NDS (OEL TWA)	0.05 mg/m³
Poland	NDSCh (OEL STEL)	0.1 mg/m³
Romania	OEL TWA	0.01 mg/m³
Romania	OEL STEL	0.03 mg/m³
Slovakia	NPHV (OEL TWA) [1]	0.05 mg/m³
Slovakia	NPHV (OEL C)	0.2 mg/m³
Sweden	NGV (OEL TWA)	0.05 mg/m³
Sweden	KTV (OEL STEL)	0.2 mg/m³
Canada (Quebec)	VEMP (OEL TWA)	0.05 mg/m³
Australia	OES TWA [1]	0.1 mg/m³
Portugal	OEL TWA	0.1 mg/m³
Portugal	OEL chemical category	A4 - Not Classifiable as a Human Carcinogen,skin - potential for cutaneous exposure

8.2. Exposure controls

Appropriate engineering controls:

Handle in an enclosing hood with exhaust ventilation.

Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified full-face supplied air respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Molecular mass	:	323.44 g/mol
Colour	:	Colourless. Amber hazy.
Odour	:	No data available
Odour threshold	:	No data available
Refractive index	:	1.519
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	-136 °C
Boiling point	:	84 – 85 °C @ 15 mm Hg
Flash point	:	73 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Combustible liquid
Vapour pressure	:	6 mm Hg @ 25°C
Relative vapour density at 20 °C	:	8.6
Relative density	:	1.653
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

IMPORTANT: AT ELEVATED TEMPERATURE IN LIQUID PHASE LEAD ALKYLS HAVE BEEN REPORTED TO EXPLODE. AN EXPLOSIVE CONDITION IS OFTEN PRECEDED BY THE LEAD ALKYL RAPIDLY TURNING BLACK. Stabilization has been reported by the addition of 0.5% stearic acid. Stearic acid is thought to getter lead metal which is catalytic for decomposition of lead alkyls.

10.2. Chemical stability

Decomposes slowly above 85°C. May explode if heated above 110°C, particularly if confined. Decomposes on exposure to light.

10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with air by reaction with oxygen.

10.4. Conditions to avoid

Light.

10.5. Incompatible materials

Air.

10.6. Hazardous decomposition products

Lead oxide fumes. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Fatal if swallowed. Harmful in contact with skin.

Tetraethyllead (78-00-2)	
LD50 oral rat	12.3 mg/kg
LD50 dermal rabbit	990 mg/kg
LC50 Inhalation - Rat	850 mg/m³ (Exposure time: 1 h)
ATE CLP (oral)	12.3 mg/kg bodyweight
ATE CLP (dermal)	990 mg/kg bodyweight

Skin corrosion/irritation : Not classified

By analogy to tetraethyllead this compound is probably absorbed through the skin causing lead poisoning syndrome, which is associated with toxicity to the central nervous system.

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

An experimental carcinogen.

Tetraethyllead (78-00-2)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

An experimental teratogen.

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/effects after inhalation : May cause respiratory irritation. Volatile compounds of lead should be treated with extreme caution.

Symptoms/effects after skin contact : May cause skin irritation.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Chronic symptoms : Exposure: Affects the central nervous system most strongly, with relatively little impact on hematopoietic organs. Immediate symptoms include dizziness, headaches, insomnia, loss of appetite. Progressive symptoms include mental euphoria, hallucinations, paranoia and death.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.

Hazardous to the aquatic environment, long–term (chronic) : Not classified.

Tetraethyllead (78-00-2)	
LC50 - Fish [1]	84 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 - Crustacea [1]	0.085 mg/l (Exposure time: 48 h - Species: Artemia salina)
LC50 - Fish [2]	19.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Tetraethyllead (78-00-2)	
BCF - Fish [1]	92 – 3189
Partition coefficient n-octanol/water (Log Pow)	4.32 (at 20 °C)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

TETRAETHYLLEAD (78-00-2)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Component	
Tetraethyllead (78-00-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of as lead waste. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

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

14.1. UN number

UN-No. (ADR) : 1649

UN-No. (IMDG) : 1649

UN-No. (IATA) : 1649

UN-No. (ADN) : 1649

UN-No. (RID) : 1649

14.2. UN proper shipping name

Proper Shipping Name (ADR) : MOTOR FUEL ANTI-KNOCK MIXTURE

Proper Shipping Name (IMDG) : MOTOR FUEL ANTI-KNOCK MIXTURE

Proper Shipping Name (IATA) : Motor fuel anti-knock mixture

Proper Shipping Name (ADN) : MOTOR FUEL ANTI-KNOCK MIXTURE

Proper Shipping Name (RID) : MOTOR FUEL ANTI-KNOCK MIXTURE

Transport document description (ADR) : UN 1649 MOTOR FUEL ANTI-KNOCK MIXTURE (TETRAETHYLLEAD), 6.1, I, (C/E), ENVIRONMENTALLY HAZARDOUS

Transport document description (IMDG) : UN 1649 MOTOR FUEL ANTI-KNOCK MIXTURE (TETRAETHYLLEAD), 6.1, I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

Transport document description (IATA) : UN 1649 Motor fuel anti-knock mixture (TETRAETHYLLEAD), 6.1, I, ENVIRONMENTALLY HAZARDOUS

Transport document description (ADN) : UN 1649 MOTOR FUEL ANTI-KNOCK MIXTURE (TETRAETHYLLEAD), 6.1, I, ENVIRONMENTALLY HAZARDOUS

Transport document description (RID) : UN 1649 MOTOR FUEL ANTI-KNOCK MIXTURE (TETRAETHYLLEAD), 6.1, I, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 6.1

Danger labels (ADR) : 6.1

:

IMDG

Transport hazard class(es) (IMDG) : 6.1

Danger labels (IMDG) : 6.1

:

IATA

Transport hazard class(es) (IATA) : 6.1

Danger labels (IATA) : 6.1

: 

ADN

Transport hazard class(es) (ADN) : 6.1

Danger labels (ADN) : 6.1

: 

RID

Transport hazard class(es) (RID) : 6.1

Danger labels (RID) : 6.1

: 

14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : I

Packing group (ADN) : I

Packing group (RID) : I

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : T3

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P602

Special packing provisions (ADR) : B4

Mixed packing provisions (ADR) : MP8, MP17

Portable tank and bulk container instructions (ADR) : T14

Portable tank and bulk container special provisions (ADR) : TP2

Tank code (ADR) : L10CH

Tank special provisions (ADR) : TU14, TU15, TE19, TE21, TT6

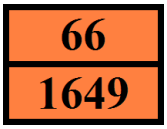
Vehicle for tank carriage : AT

Transport category (ADR) : 1

Special provisions for carriage - Loading, unloading and handling (ADR) : CV1, CV13, CV28

Special provisions for carriage - Operation (ADR) : S9, S14

Hazard identification number (Kemler No.) : 66

Orange plates	:	
Tunnel restriction code (ADR)	:	C/E
EAC code	:	2WE
APP code	:	B

- Transport by sea

Limited quantities (IMDG)	:	0
Excepted quantities (IMDG)	:	E0
Packing instructions (IMDG)	:	P602
Tank instructions (IMDG)	:	T14
Tank special provisions (IMDG)	:	TP2, TP13
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-A
Stowage category (IMDG)	:	D
Stowage and handling (IMDG)	:	SW1, SW2
Properties and observations (IMDG)	:	Volatile liquids evolving toxic vapour. Mixture of tetraethyllead or tetramethyllead with ethylene dibromide and ethylene dichloride. Insoluble in water. Highly toxic if swallowed, by skin contact or by inhalation.

- Air transport

PCA Excepted quantities (IATA)	:	E0
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	Forbidden
PCA max net quantity (IATA)	:	Forbidden
CAO packing instructions (IATA)	:	658
CAO max net quantity (IATA)	:	30L
Special provisions (IATA)	:	A1
ERG code (IATA)	:	6L

- Inland waterway transport

Classification code (ADN)	:	T3
Special provisions (ADN)	:	802
Limited quantities (ADN)	:	0
Excepted quantities (ADN)	:	E0
Equipment required (ADN)	:	PP, EP, TOX, A
Ventilation (ADN)	:	VE02
Number of blue cones/lights (ADN)	:	2

- Rail transport

Classification code (RID)	:	T3
Limited quantities (RID)	:	0
Excepted quantities (RID)	:	E0
Packing instructions (RID)	:	P602
Mixed packing provisions (RID)	:	MP8, MP17
Portable tank and bulk container instructions (RID)	:	T14
Portable tank and bulk container special provisions (RID)	:	TP2
Tank codes for RID tanks (RID)	:	L10CH
Special provisions for RID tanks (RID)	:	TU14, TU15, TU38, TE21, TE22, TT6
Transport category (RID)	:	1
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW28, CW31
Hazard identification number (RID)	:	66

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

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

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

63. Lead and its compounds	Tetraethyllead
72. The substances listed in column 1 of the Table in Appendix 12	Tetraethyllead

TETRAETHYLLEAD is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Tetraethyllead is on the REACH Candidate List

Contains a substance on the REACH candidate list: Tetraethyllead (EC 201-075-4, CAS 78-00-2)

TETRAETHYLLEAD is not on the REACH Annex XIV List

Tetraethyl lead is subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations

Germany

Regulatory reference : WGK 3, Highly hazardous to water (KBwS-Beschluss; ID No. 35)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : TETRAETHYLLEAD is listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : TETRAETHYLLEAD is listed

Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : 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 additional information available

SECTION 16: Other information

Abbreviations and acronyms:

	Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemcial Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor

Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4

Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
H300	Fatal if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

SDS EU (REACH Annex II) - Custom

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830