

1. Product and company identification

Product identifier

Trade name: 635L8 - Socket Lacquer, clear

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

General use: Varnish, coating agent, for orthopedic procedures
For commercial user only.

Details of the supplier of the safety data sheet

Company name: Otto Bock Health Care
Street/POB-No.: 3820 W. Great Lakes Drive
Postal Code, city: Salt Lake City, UT 84120
USA

WWW: www.ottobockus.com

Telephone: +1 (801) 956-2400

Telefax: +1 (801) 956-2401

Department responsible for information:

Quality Department,
Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),
Email: USRegulatory@ottobock.com

Additional information: Corporate headquarters:
Ottobock SE & Co. KGaA
Max-Näder-Straße 15
Duderstadt
Germany

Emergency phone number

CHEMTREC, Telephone: +1 (800) 424-9300

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: liquid

Color: colorless

Odor: Characteristic

Classification: Flammable Liquid - Category 2. Skin Irritation - Category 2. Eye Irritation - Category 2A. Reproductive toxicant - Category 2. Specific Target Organ Toxicity (Single Exposure) - Category 3. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aquatic toxicity - acute - Category 2. Aquatic toxicity - chronic - Category 3.

Hazard symbols:



Signal word: **Danger**

Hazard statements:

- Highly flammable liquid and vapor.
- Causes skin irritation.
- Causes serious eye irritation.
- May cause drowsiness or dizziness.
- Suspected of damaging the unborn child.
- May cause damage to organs through prolonged or repeated exposure.
- Toxic to aquatic life.
- Harmful to aquatic life with long lasting effects.

Precautionary statements:

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe vapors.
- Wash hands and face thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection.
- IF ON SKIN: Wash with plenty of water/soap.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/or shower.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF exposed or concerned: Get medical advice/attention.
- Call a POISON CENTER/doctor if you feel unwell.
- Specific treatment (see 'First aid' on this label).
- If skin irritation occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.
- In case of fire: Use dry powder, foam or water spray for extinction.
- Store in a well-ventilated place. Keep container tightly closed.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Dispose of contents/container to hazardous or special waste collection point.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified

Special danger of slipping by leaking/spilling product. Potentially explosive mixtures may form if adequate ventilation is not provided. Inhaling can lead to irritations of the respiratory tract and mucous membrane.

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Preparation with synthetic adhesive agent and solvent

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 108-88-3	Toluene	35 - 50 %	Flammable Liquid - Category 2. Skin Irritation - Category 2. Reproductive toxicant - Category 2. Specific Target Organ Toxicity (Single Exposure) - Category 3. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aspiration Toxicity - Category 1. Aquatic toxicity - acute - Category 2. Aquatic toxicity - chronic - Category 3.
CAS 141-78-6	Ethyl acetate	15 - 20 %	Flammable Liquid - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Single Exposure) - Category 3.

4. First aid measures

General information:	If medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection! Take off immediately all contaminated clothing and wash it before reuse.
In case of inhalation:	Remove person to fresh air and keep comfortable for breathing. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek medical attention if problems persist.
Following skin contact:	Remove residues with soap and water. In case of skin reactions, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.
After swallowing:	Rinse mouth immediately and drink plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

Most important symptoms/effects, acute and delayed

Causes skin irritation and serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.
Inhaling can lead to irritations of the respiratory tract and mucous membrane.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:

24.8 °F (DIN 53213)

Auto-ignition temperature: Not self-igniting

Suitable extinguishing media:

Water spray jet, alcohol resistant foam, dry chemical powder, carbon dioxide

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

Highly flammable liquid and vapor. Vapors may proceed on the ground over great distances and cause fire and backflashes. In case of insufficient ventilation and/or when used, may form explosive/highly flammable vapor-air mixture.

May form dangerous gases and vapors in case of fire. Furthermore, there may develop: Carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Do not inhale explosion and combustion gases. Use fine water spray to cool endangered containers.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

6. Accidental release measures

Personal precautions:

Avoid exposure. Do not breathe vapors. Do not get in eyes, on skin, or on clothing. If possible, eliminate leakage. Provide adequate ventilation. Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse. Keep unprotected people away. Cordon off downwind area at risk and warn inhabitants.

Environmental precautions:

Do not allow to enter into ground-water, surface water or drains. In case of release, notify competent authorities. Danger of explosion!

Methods for clean-up:

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13). Beware of reignition. Thoroughly clean surrounding area.

In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out). Never return spills in original containers for re-use.

Additional information:

Special danger of slipping by leaking/spilling product.

7. Handling and storage

Handling

Advices on safe handling:

Obtain special instructions before use. Provide adequate ventilation, and local exhaust as needed. Do not breathe vapors. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Wear appropriate protective equipment. Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

Precautions against fire and explosion:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Take precautionary measures against static discharge.

Use only explosion-protected equipment/instruments. In partially filled containers explosive mixtures may form.

Storage

Requirements for storerooms and containers:

Keep container tightly closed and in a well-ventilated place. Keep container dry. Keep only in the original container.

Protect from direct sunlight. Store containers in upright position.

Storage temperature: 41 - 95 °F

Only approved packaging (e.g. in accordance with DOT) may be used.

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs.

Do not store together with: Strong acids, strong bases, strong oxidizing agents.

Further details:

Only trained personnel may be allowed to enter storage area.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
108-88-3	Toluene	USA: ACGIH: TWA	20 ppm
		USA: IDLH: TWA	500 ppm
		USA: NIOSH: STEL	560 mg/m ³ ; 150 ppm
		USA: NIOSH: TWA	375 mg/m ³ ; 100 ppm
		USA: OSHA: Ceiling	500 ppm
		USA: OSHA: STEL	300 ppm
		USA: OSHA: TWA	200 ppm
141-78-6	Ethyl acetate	USA: ACGIH: TWA	1,440 mg/m ³ ; 400 ppm
		USA: IDLH: TWA	2,000 ppm [10% LEL]
		USA: NIOSH: TWA	1,400 mg/m ³ ; 400 ppm
		USA: OSHA: TWA	1,400 mg/m ³ ; 400 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
108-88-3	Toluene	USA: ACGIH-BEI, blood	0.02 mg/L	Toluene in blood	Prior to last shift of workweek
		USA: ACGIH-BEI, urine	0.03 mg/L	Toluene in urine	end of exposure or end of shift
		USA: ACGIH-BEI, urine	0.3 mg/g creatinine	o-Cresol in urine	end of exposure or end of shift

Engineering controls

Provide good ventilation and/or an exhaust system in the work area.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection:	Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.
Skin protection:	Flame retardant, antistatic and chemical resistant protective clothing. Protective gloves according to OSHA Standard - 29 CFR: 1910.138. Glove material: Nitrile rubber - Layer thickness ≥ 0.4 mm Breakthrough time: > 480 min Observe glove manufacturer's instructions concerning penetrability and breakthrough time. Preventive skin protection (cremes) in accordance with manufacturer's recommendation.
Respiratory protection:	Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. In case of inadequate ventilation wear respiratory protection. Recommendation: Use filter type A (= against vapors of organic substances) according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2. The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.
General hygiene considerations:	Obtain special instructions before use. Do not breathe vapors. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Physical state at 68 °F and 101.3 kPa: liquid Color: colorless
Odor:	Characteristic
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	-139 °F (toluene)
Initial boiling point and boiling range:	> 168.8 °F (ethyl acetate)
Flash point/flash point range:	24.8 °F (DIN 53213)
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapor.
Explosion limits:	LEL (Lower Explosion Limit): 1.00 Vol-% (toluene) UEL (Upper Explosive Limit): 11.50 Vol-% (ethyl acetate)
Vapor pressure:	at 68 °F: 60.23 hPa
Vapor density:	No data available
Density:	at 68 °F: 1 g/mL
Water solubility:	Practically insoluble

Partition coefficient: n-octanol/water:	at 68 °F: 2.73 log K(o/w) (toluene) Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected. at 77 °F: 0.68 log K(o/w) (ethyl acetate) Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.
Auto-ignition temperature:	Not self-igniting
Thermal decomposition:	No data available
Viscosity, kinematic:	at 68 °F: < 400 mm ² /s
Explosive properties:	Vapors may form explosive mixtures with air.
Ignition temperature:	798.8 °F
Solvent content:	70 %
Solid content:	30 %

10. Stability and reactivity

Reactivity:	Highly flammable liquid and vapor.
Chemical stability:	Product is stable under normal storage conditions.
Possibility of hazardous reactions:	Vapors may form explosive mixtures with air. Heating will lead to pressure increase: Danger of bursting and explosion.
Conditions to avoid:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from direct sunlight.
Incompatible materials:	Strong acids, strong bases, strong oxidizing agents
Hazardous decomposition products:	No hazardous decomposition products when regulations for storage and handling are observed.
Thermal decomposition:	No data available

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Based on available data, the classification criteria are not met.

ATEmix (calculated) > 5,000 mg/kg

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

ATEmix (vapor, calculated) > 20 mg/kg

Skin corrosion/irritation: Skin Irritation - Category 2 = Causes skin irritation.

Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

Skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Reproductive toxicant -

Category 2 = Suspected of damaging the unborn child.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Specific Target Organ Toxicity (Single Exposure) - Category 3 = May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): Specific Target Organ Toxicity (Repeated Exposure) -

Category 2 = May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Based on available data, the classification criteria are not met.

Other information: Information about Toluene (CAS 108-88-3):

LD50 Rat, oral: 5,580 mg/kg (EU B.1)

LD50 Rabbit, dermal: 12,267 mg/kg

LC50 Rat, inhalative (vapor): 28.1 mg/L/4h (OECD 403)

Carcinogenic effect, Toluene (CAS 108-88-3):

IARC Rating: Group 3

OSHA Carcinogen: not listed

NTP Rating: not listed

Information about Ethyl acetate (CAS 141-78-6):

LD50 Rabbit, oral: 4,934 mg/kg (OECD 401)

LD50 Rabbit, dermal: > 20,000 mg/kg

LC50 Rat, inhalative (vapor): > 22.5 mg/L/6h, no mortality occurred

Symptoms

In case of inhalation:

Inhalation of vapors exceeding the allowable WEL/TLV-levels may pose a health hazard as well as lead to irritation of mucous membranes and respiratory system, cause kidney and liver damage as well as adversely affect the central nervous system. Higher doses may lead to a narcotic effect.

After contact with skin:

The product is skin resorptive. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and/or absorption through skin.

After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

12. Ecological information

Ecotoxicity

Aquatic toxicity:

Toxic to aquatic life with long lasting effects.

Information about Toluene (CAS 108-88-3):

Fish toxicity:

LC50 *Oncorhynchus kisutch* (silver salmon): 5.5 mg/L/96h

NOEC *Oncorhynchus kisutch* (silver salmon): 1.39 mg/L/40d

Daphnia toxicity:

EC50 *Ceriodaphnia dubia* (water flea): 3.78 mg/L/48h (US EPA 600/4-91-003)

NOEC *Ceriodaphnia dubia* (water flea): 0.74 mg/L/7d (US EPA 600/4-91-003)

Algae toxicity:

EC50 *Chlamydomonas angulosa*: 134 mg/L/3h

NOEC *Skeletonema costatum*: 10 mg/L/72h (OECD 201)

Information about Ethyl acetate (CAS 141-78-6):

Fish toxicity:

LC50 *Pimephales promelas* (fathead minnow): 230 mg/L/96h (US EPA E03-05)

NOEC *Pimephales promelas* (fathead minnow): 6.9 mg/L/32d (data obtained by analogy conclusion, e.g. (Q)SAR)

Daphnia toxicity:

EC50 *Daphnia cucullata*: 165 mg/L/48h (weight of evidence)

NOEC *Daphnia magna* (Big water flea): 2.4 mg/L/21d (OECD 211)

Algae toxicity:

EC50 *Desmodesmus subspicatus* (green algae): 5,600 mg/L/48h (DIN 38412)

NOEC *Chlorella pyrenoidosa*: ≥ 1,000 mg/L/72h

Effects in sewage plants:

Information about Toluene (CAS 108-88-3):

EC50 activated sludge: 84 mg/L/24h

Mobility in soil

Information about Toluene (CAS 108-88-3):

log KOC: 2.31

Persistence and degradability

Further details:

Biodegradability:

Information about Toluene (CAS 108-88-3):

Oxygen consumption: 81%/5d, easily bio-degradable

Information about Ethyl acetate (CAS 141-78-6):

Oxygen consumption: 69%/20d, easily bio-degradable

Additional ecological information

Volatile organic compounds (VOC):

662 g/L

General information:

Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations

Product

Recommendation: Dispose of waste according to applicable legislation. Do not allow to enter drains.

Package

Recommendation: Dispose of waste according to applicable legislation. Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 1263

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1263, PAINT

Transport hazard class(es)

ADR/RID:

Class 3, Code: F1

IMDG:

Class 3, Subrisk -

IATA-DGR:

Class 3



Packing group

ADR/RID, IMDG, IATA-DGR:

II

Environmental hazards

Marine pollutant:

no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No transport as bulk according IBC - Code.

USA: Department of Transportation (DOT)

Identification number: UN1263
 Proper shipping name: UN 1263, PAINT
 Hazard class or Division: 3
 Packing Group: II
 Labels: 3
 Special Provisions: 149, 367, 383, B52, B131, IB2, T4, TP1, TP8, TP28
 Packaging – Exceptions: 150
 Packaging – Non-bulk: 173
 Packaging – Bulk: 242
 Quantity limitations – Passenger aircraft / rail: 5 L
 Quantity limitations – Cargo only: 60 L
 Vessel stowage – Location: B



Sea transport (IMDG)

UN number: UN 1263
 Proper shipping name: UN 1263, PAINT
 Class or division, Subsidiary risk: Class 3, Subrisk -
 Packing Group: II
 EmS: F-E, S-E
 Special Provisions: 163 367
 Limited quantities: 5 L
 Excepted quantities: E2
 Package - Instructions: P001
 Package - Provisions: PP1
 IBC - Instructions: IBC02
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: T4
 Tank instructions - Provisions: TP1, TP8, TP28
 Stowage and handling: Category B.
 Properties and observations: Miscibility with water depends upon the composition.
 Marine pollutant: no
 Segregation group: none

Air transport (IATA)

UN/ID number: UN 1263
 Proper shipping name: UN 1263, PAINT
 Class or division, Subsidiary risk: Class 3
 Packing Group: II
 Hazard label: Flamm. liquid
 Excepted Quantity Code: E2
 Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y341 - Max. Net Qty/Pkg. 1 L
 Passenger and Cargo Aircraft: Pack.Instr. 353 - Max. Net Qty/Pkg. 5 L
 Cargo Aircraft only: Pack.Instr. 364 - Max. Net Qty/Pkg. 60 L
 Special Provisions: A3 A72 A192
 Emergency Response Guide-Code (ERG): 3L

15. Regulatory information

National regulations - U.S. Federal Regulations

Toluene:	<p>TSCA Inventory: listed</p> <p>Carcinogen Status:</p> <p>IARC Rating: Group 3</p> <p>OSHA Carcinogen: not listed</p> <p>NTP Rating: not listed</p> <p>Clean Air Act:</p> <p>CAA Hazardous Air Pollutants: yes</p> <p>CAA SOCM Chemical: yes</p> <p>Clean Water Act:</p> <p>CWA Hazardous Substances: RQ 1000 lbs.</p> <p>CWA Priority Pollutants: yes</p> <p>Other Environmental Laws:</p> <p>CERCLA: RQ 1000 lbs.</p> <p>RCRA Hazardous Wastes: Code U220</p> <p>RCRA Groundwater Monitoring: Methods 8020, 8240 / PQL 2, 5</p> <p>SARA Title III - Section 313, Toxic Release: Conc. 1.0% / Threshold Standard</p> <p>NIOSH Recommendations:</p> <p>Occupational Health Guideline: 0619</p>
Ethyl acetate:	<p>TSCA Inventory: listed</p> <p>Other Environmental Laws:</p> <p>CERCLA: RQ 5000 lbs.</p> <p>RCRA Hazardous Wastes: Code U112</p> <p>NIOSH Recommendations:</p> <p>Occupational Health Guideline: 0260</p>

National regulations - U.S. State Regulations

Toluene:	California Proposition 65: developmental
Ethyl acetate:	<p>Delaware Air Quality Management List:</p> <p>DRQ: 5000 - RQ State: Federal Regulations Apply</p> <p>Idaho Air Pollutant List:</p> <p>Title 585: AAC: 70 - EL: 93,3 - OEL: 1400 - Title 586: -</p> <p>Main Hazardous Air Pollutants:</p> <p>Me 2005: HAP - Hap Rpt: 20000</p> <p>Massachusetts Haz. Substance codes: 2,4,5,6 F8</p> <p>Minnesota Haz. Substance:</p> <p>Codes: AO - Ratings: 6.83 - Status: Title III.</p> <p>New York List of Hazardous Substances:</p> <p>RQ-Air: 5000 - RQ-Land: 1 - Note: No Note Associated with this chemical.</p> <p>Pennsylvania Haz. Substance code: E</p> <p>Washington Air Contaminant:</p> <p>TWA: 400 ppm - 1400 mg</p>

16. Other information

Text for labeling: Contains 35 - 50 % Toluene, 15 - 20 % Ethyl acetate.

Hazard rating systems:



NFPA Hazard Rating:

Health: 2 (Moderate)

Fire: 3 (Serious)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 2 (Moderate) - Chronic effects

Flammability: 3 (Serious)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL HAZARD		0
		X

Classification procedure:

Physical hazards: on basis of test data

Health hazards, environmental hazards: calculation method

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
 Aquatic toxicity - acute: Hazardous to the aquatic environment - acute
 Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic
 AS/NZS: Australian Standards/New Zealand Standards
 Aspiration Toxicity: Aspiration toxicity
 ATEmix: Acute Toxicity Estimate of mixture
 BCF: Bioconcentration Factor
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 DIN: German Institute for Standardization
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 DOT: Department of Transportation's Safety Regulations (USA)
 EC: European Community
 EC50: Effective Concentration 50%
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 Eye Irritation: Eye irritation
 Flammable Liquid: Flammable liquid
 IATA: International Air Transport Association
 IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
 IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG Code: International Maritime Dangerous Goods Code
 IMO: International Maritime Organization
 LC50: Median lethal concentration
 LD50: Lethal dose 50%
 LEL: Lower Explosion Limit
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 NOEC: No Observed Effect Concentration
 OECD: Organisation for Economic Co-operation and Development
 OEL: Occupational Exposure Limit Value
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 QSAR: Quantitative Structure-Activity Relationship
 Reproductive toxicant: Reproductive toxicity
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 Skin Irritation: Skin irritation
 STOT RE: Specific target organ toxicity - repeated exposure
 STOT SE: Specific target organ toxicity - single exposure
 TDG: Transportation of Dangerous Goods Regulation in Canada
 TLV: Threshold Limit Value
 TRGS: Technical Rules for Hazardous Substances
 UN: United Nations
 vPvB: Very persistent and very bioaccumulative
 WEL: Workplace Exposure Limit

Reason of change: Changes in section 2: Classification, labelling
Changes in section 3: Composition/information on ingredients
Changes in section 9: Physical and chemical properties
General revision

Date of first version: 10/21/1994

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.