

634A71 - Thinner for CP/CR contact adhesive

Material number 634A71

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1. Product and company identification

Product identifier

Trade name: 634A71 - Thinner for CP/CR contact adhesive

This safety data sheet pertains to the following products:
634A71=0.8 = Verdünner für CR/CP Kontaktkleber
634A71=4 = Verdünner für CR/CP Kontaktkleber

Recommended use and restrictions on use

General use: Thinner for orthopedic procedures.
For commercial user only.

Initial supplier identifier

Company name: Otto Bock HealthCare Canada Ltd.
Street/POB-No.: 5470 Harvester Road
Postal Code, city: Burlington, ON L7L 5N5, CA
Canada
WWW: www.ottobock.ca
E-mail: info.canada@ottobock.com
Telephone: (800) 665-3327
Telefax: (800) 463-3659

Department responsible for information:
Mark Agro, Telephone: (800) 665-3327 (9 am - 5 pm)

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

Emergency phone number

COLLECT, Telephone: (613) 996-6666
Transport:
CONSULTANK Lutz Harder GmbH (Contract QUALI003)
Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazards identification

Emergency overview

Appearance: Form: liquid
Color: colorless
Odor: ester-like
Classification: Flammable Liquid 2. Skin Irritation 2. Eye Irritation 2A.
Specific Target Organ Toxicity (Single Exposure) 3. Aspiration Toxicity 1.
Aquatic toxicity - chronic 2.

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Hazard symbols:



Signal word:

Danger

Hazard statements:

Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Immediately call a POISON CENTER/doctor.
Do NOT induce vomiting.

Regulatory status

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

Hazards not otherwise classified

In use, may form flammable/explosive vapour-air mixture.
Special danger of slipping by leaking/spilling product.
Inhaling can lead to irritations of the respiratory tract and mucous membrane.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterisation: Mixture of organic solvents

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 141-78-6	Ethyl acetate	40 - 45 %	Flammable Liquid 2. Eye Irritation 2A. Specific Target Organ Toxicity (Single Exposure) 3.
CAS 64742-49-0	Naphtha (petroleum), hydrotreated light	40 - 45 %	Flammable Liquid 2. Skin Irritation 2. Aspiration Toxicity 1. Aquatic toxicity - chronic 2.
CAS 110-82-7	Cyclohexane	15 - 20 %	Flammable Liquid 2. Skin Irritation 2. Specific Target Organ Toxicity (Single Exposure) 3. Aspiration Toxicity 1. Aquatic toxicity - acute 1 (M-factor = 1). Aquatic toxicity - chronic 1 (M-factor = 1).

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4. First aid measures

General information:	If medical advice is needed, have product container or label at hand. Position and transport victim on their side. In case of respiratory distress, bring into semi-upright, seated position.
In case of inhalation:	Remove affected person from the danger area and lay down. Provide fresh air. Seek medical attention.
Following skin contact:	Take off immediately all contaminated clothing and wash it before reuse. In case of contact with the skin, immediately wash with polyethylene glycol. Then wash with water. Follow up by applying skin cream. In case of skin irritation, 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:	Do not induce vomiting. Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Consult physician immediately.

Most important symptoms and effects, both acute and delayed

May be fatal if swallowed and enters airways. May cause drowsiness or dizziness.
Causes skin irritation. Causes serious eye irritation.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:	-18 °C (DIN 51755)
Auto-ignition temperature:	No data available
Suitable extinguishing media:	water spray jet, extinguishing powder, carbon dioxide, Alcohol resistant foam, dry sand
Extinguishing media which must not be used for safety reasons:	Full water jet

Specific hazards arising from the chemical

Highly flammable liquid and vapor.
Air combined with vapors may form potentially explosive mixtures that are heavier than air. Vapors may proceed on the ground over great distances and cause fire and backflashes.
In case of fire may be liberated: carbon monoxide and carbon dioxide.

Special protective equipment and precautions for fire-fighters:	Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.
Additional information:	Heating will lead to pressure increase: Danger of bursting and explosion. Use fine water spray to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely. 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.

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6. Accidental release measures

Personal precautions:	Do not breathe vapors. Avoid contact with the substance. Eliminate all ignition sources if safe to do so. Provide adequate ventilation. Wear appropriate protective equipment. 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. Danger of explosion! In case of release, notify competent authorities.
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).
Additional information:	Use explosion-proof equipment and non-sparking tools/utensils.

7. Handling and storage

Handling

Advices on safe handling:	Use local exhaust. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means. Do not breathe vapors. Avoid contact with skin and eyes. Wear appropriate protective equipment. Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation. Work place should be equipped with a shower and an eye rinsing apparatus.
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Precautions against fire and explosion:	Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Use only explosion-protected equipment/instruments. Do not weld. In partially filled containers explosive mixtures may form.
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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 heat and direct sunlight. Store containers in upright position. Explosion protection required. Recommended storage temperature: 15-30 °C
Hints on joint storage:	Do not store together with combustible or self-igniting materials or any highly flammable solids. Keep away from food, drink and animal feedingstuffs.

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8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
141-78-6	Ethyl acetate	Canada: OEL 8 hour Canada: OEL TWA Canada: VEMP USA: ACGIH: TWA USA: IDLH: TWA USA: NIOSH: TWA USA: OSHA: TWA	1,440 mg/m ³ ; 400 ppm 150 ppm 1,440 mg/m ³ ; 400 ppm 1,440 mg/m ³ ; 400 ppm 2,000 ppm [10% LEL] 1,400 mg/m ³ ; 400 ppm 1,400 mg/m ³ ; 400 ppm
64742-49-0	Naphtha (petroleum), hydrotreated light	Canada: OEL TWA	100 ppm
110-82-7	Cyclohexane	Canada: OEL 8 hour Canada: OEL TWA Canada: VEMP USA: ACGIH: TWA USA: IDLH: TWA USA: NIOSH: TWA USA: OSHA: TWA	344 mg/m ³ ; 100 ppm 100 ppm 1,030 mg/m ³ ; 300 ppm 344 mg/m ³ ; 100 ppm 1,300 ppm [10% LEL] 1,050 mg/m ³ ; 300 ppm 1,050 mg/m ³ ; 300 ppm

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
110-82-7	Cyclohexane	USA: ACGIH-BEI, urine	50 mg/g creatinine	1,2-Cyclohexanediol	end of shift at end of work week

Engineering controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment. Explosion protection required.

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: Butyl caoutchouc (butyl rubber) - Layer thickness: 0.5 mm

Breakthrough time: >= 60 min

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. Respiratory protection is required for not sufficiently ventilated working places and during the spraying processing.

The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

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General hygiene considerations:

Use only non-sparking tools. Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.
Do not breathe vapor/aerosol. Avoid contact with skin and eyes.
Take off immediately all contaminated clothing and wash it before reuse.
When using do not eat, drink or smoke.
Wash hands before breaks and after work.
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:	Form: liquid Color: colorless
Odor:	ester-like
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	-35 °C
Initial boiling point and boiling range:	65 - 95 °C (DIN 53171)
Flash point/flash point range:	-18 °C (DIN 51755)
Evaporation rate:	No data available
Flammability:	Highly flammable liquid and vapor.
Explosion limits:	LEL (Lower Explosion Limit): 1.00 Vol-% UEL (Upper Explosive Limit): 11.50 Vol-%
Vapor pressure:	at 20 °C: 175 hPa (DIN EN 12) at 50 °C: 950 hPa
Vapor density:	No data available
Density:	at 20 °C: 0.79 g/mL (DIN 51757)
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	> 150 °C
Viscosity, dynamic:	at 20 °C: 0.35 mPa*s (DIN 51550)
Explosive properties:	Vapors may form explosive mixtures with air.
Ignition temperature:	200 °C (DIN 51794)
Solvent content:	100 %
Solid content:	0 %

10. Stability and reactivity

Reactivity:	Highly flammable liquid and vapor.
Chemical stability:	Stable under recommended storage conditions.

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Possibility of hazardous reactions:

Heating will lead to pressure increase: Danger of bursting and explosion.

Conditions to avoid:

Keep away from heat sources, sparks and open flames.
Protect from direct sunlight. Keep away from air.

Incompatible materials:

strong oxidizing agents, strong acids

Hazardous decomposition products:

In case of fire may be liberated: carbon monoxide and carbon dioxide

Thermal decomposition:

> 150 °C

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): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

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

Serious eye damage/irritation: Eye Irritation 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: Lack of data.

Effects on or via lactation: Lack of data.

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

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Aspiration Toxicity 1 = May be fatal if swallowed and enters airways.

Other information:

Information about Ethyl acetate:

LD50 Rat, oral: 5600 mg/kg.

LD50 Rabbit, dermal: 18000 mg/kg.

LC50 Rat, inhalative: 58 mg/l/4h (vapor).

Information about Naphtha (petroleum), hydrotreated light:

LD50 Rat, oral: 5000 mg/kg.

LD50 Rabbit, dermal: 3160 mg/kg.

LC50 Rat, inhalative: 25 mg/l/4h (vapor).

Information about Cyclohexane:

LD50 Rat, oral: 12705 mg/kg.

LD50 Rabbit, dermal: 2000 mg/kg.

LC50 Rat, inhalative: 20 mg/l/4h (vapor).

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Symptoms

In case of inhalation:
May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation causes narcotic effects/intoxication.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Toxic to aquatic life with long lasting effects.
Information about Ethyl acetate:
Fish toxicity: LC50: 230 mg/L/96h.
Algae toxicity: ErC50: 3300 mg/L/72h .
Daphnia toxicity: EC50: 717 mg/L/48h.
Information about Naphtha (petroleum), hydrotreated light:
Fish toxicity: LC50: 10 mg/L/96h.
Algae toxicity: ErC50: 10 mg/L/72h .
Daphnia toxicity: EC50: 10 mg/L/48h.
Information about Cyclohexane:
Fish toxicity: LC50: 55 mg/L/96h.
Algae toxicity: ErC50: 500 mg/L/72h .
Daphnia toxicity: EC50: 0,9 mg/L/48h.

Mobility in soil

No data available

Persistence and degradability

Further details: Product is biodegradable with difficulty.

Additional ecological information

Volatile organic compounds (VOC):
100 % by weight / 790 g/L
General information: Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations

Product

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

Package

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

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14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:

UN 1993

UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

UN 1993, FLAMMABLE LIQUID, N.O.S.
(Naphtha (petroleum), hydrotreated light, ethyl acetate, Cyclohexane)

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:

yes

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

No data available

USA: Department of Transportation (DOT)

Identification number:

UN1993

Proper shipping name:

UN 1993, FLAMMABLE LIQUIDS, N.O.S.
(Naphtha (petroleum), hydrotreated light, ethyl acetate, Cyclohexane)

Hazard class or Division:

3

Packing Group:

II

Labels:

3

Symbols:

G

Special Provisions:

IB2, T7, TP1, TP8, TP28

Packaging – Exceptions:

150

Packaging – Non-bulk:

202

Packaging – Bulk:

242

Quantity limitations – Passenger aircraft / rail:

5 L

Quantity limitations – Cargo only:

60 L

Vessel stowage – Location:

B



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Canada: Transportation of Dangerous Goods (TDG)

UN Number: UN1993
Shipping name: UN 1993, Flammable liquid, n.o.s.
(Naphtha (petroleum), hydrotreated light, ethyl acetate, Cyclohexane)
TDG class: 3
Packing group: II
Special provisions: 16, 150
Explosive limit and limited quantity index: 1 L
Passenger carrying road or rail index: 5 L
Marine pollutant: P

Sea transport (IMDG)

UN number: UN 1993
Proper shipping name: UN 1993, FLAMMABLE LIQUID, N.O.S.
(Naphtha (petroleum), hydrotreated light, ethyl acetate, Cyclohexane)
Class or division, Subsidiary risk: Class 3, Subrisk -
Packing Group: II
EmS: F-E, S-E
Special Provisions: 274
Limited quantities: 1 L
Excepted quantities: E2
Package - Instructions: P001
Package - Provisions: -
IBC - Instructions: IBC02
IBC - Provisions: -
Tank instructions - IMO: -
Tank instructions - UN: T7
Tank instructions - Provisions: TP1, TP8, TP28
Stowage and handling: Category B.
Properties and observations: -
Marine pollutant: yes
Segregation group: none

Air transport (IATA)

UN/ID number: UN 1993
Proper shipping name: UN 1993, FLAMMABLE LIQUID, N.O.S.
(Naphtha (petroleum), hydrotreated light, ethyl acetate, Cyclohexane)
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
Emergency Response Guide-Code (ERG): 3H

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15. Regulatory information

National regulations - Canada

Ethyl acetate: DSL: listed

Naphtha (petroleum), hydrotreated light: DSL: listed

Cyclohexane: DSL: listed

National regulations - U.S. Federal Regulations

Ethyl acetate: TSCA Inventory: listed

Other Environmental Laws:

CERCLA: RQ 5000 lbs.

RCRA Hazardous Wastes: Code U112

NIOSH Recommendations:

Occupational Health Guideline: 0260

Naphtha (petroleum), hydrotreated light: TSCA Inventory: listed; UVCB

Cyclohexane: TSCA Inventory: listed

Clean Air Act:

CAA SOCM Chemical: yes

Clean Water Act:

CWA Hazardous Substances: RQ 1000 lbs.

Other Environmental Laws:

CERCLA: RQ 1000 lbs.

RCRA Hazardous Wastes: Code U056

SARA Title III - Section 313, Toxic Release: Conc. 1.0% /

Threshold Standard

NIOSH Recommendations:

Occupational Health Guideline: 0163

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National regulations - U.S. State Regulations

Ethyl acetate:	<p>Delaware Air Quality Management List: DRQ: 5000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 70 - EL: 93,3 - OEL: 1400 - Title 586: - Main Hazardous Air Pollutants: Me 2005: HAP - Hap Rpt: 20000 Massachusetts Haz. Substance codes: 2,4,5,6 F8 Minnesota Haz. Substance: Codes: AO - Ratings: 6.83 - Status: Title III. New York List of Hazardous Substances: RQ-Air: 5000 - RQ-Land: 1 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: TWA: 400 ppm - 1400 mg</p>
Cyclohexane:	<p>California Proposition 65 code: none Delaware Air Quality Management List: DRQ: 1000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 52,5 - EL: 70 - OEL: 1050 - Title 586: - Maine Hazardous Air Pollutants: Me 2005: HAP - Hap Rpt: 20000 Massachusetts Haz. Substance codes: 2,4,5,6 F8 F9 Minnesota Haz. Substance: Codes: AO - Ratings: 7.94 - Status: Title III. TRI. New Jersey RTK Hazardous Substance: DOT: 1145 - Sub No.: 0565 - TPQ: - New York List of Hazardous Substances: RQ-Air: 1000 - RQ-Land: 1 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: TWA: 300 ppm - 1050 mg</p>

16. Other information

Text for labeling:	Contains 40 - 45 % Ethyl acetate, 40 - 45 % Naphtha (petroleum), hydrotreated light, 15 - 20 % Cyclohexane.
Hazard rating systems:	Contains Naphtha (petroleum), hydrotreated light, Ethyl acetate, Cyclohexane
	<p>NFPA Hazard Rating: Health: 2 (Moderate) Fire: 3 (Serious) Reactivity: 0 (Minimal)</p>
	<p>HMIS Version III Rating: Health: 2 (Moderate) Flammability: 3 (Serious) Physical Hazard: 0 (Minimal) Personal Protection: X = Consult your supervisor</p>

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
	X

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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
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EC50: Effective Concentration 50%
EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
EN: European Standard
EQ: Excepted quantities
ErC50: EC50 in terms of reduction of growth rate
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
log P(o/w): Partition coefficient: octanol/water
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
M-factor: Multiplication factor
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
Skin Irritation: Skin irritation
STOT SE: Specific target organ toxicity - single exposure
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
UN: United Nations
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit
WHMIS: Workplace Hazardous Materials Information System

Reason of change: Changes in section 8: Occupational exposure limit values

Date of first version: 6/8/2002

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.