

1. Product and company identification

Product identifier

Trade name: 757B15 - X-ChangePack

Recommended use and restrictions on use

General use: Electrical batteries and accumulators

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: Physical state at 20 °C and 101.3 kPa: solid

Form: Cells: 5 (plastic casing)

Color: beige

Odor: No data available

Classification: Article not subject to hazard labeling or classification.

Regulatory status

This material is not considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and WHMIS in Canada.

Hazards not otherwise classified

The battery is hermetically sealed. Avoid short circuit. Avoid damage to the battery casing.

Danger of releasing ingredients, mentioned in section 3, by damaging the battery

- with strong mechanical action,
- in case of heating and/or fire,
- with influence of water,
- short circuit.

May be corrosive to metals.

Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterisation: Article: Batteries, nickel-metal hydride.

The chemical materials are stored in a hermetically sealed metal case.

Contains metals: Nickel, Iron, Lanthanum, Cerium, Neodymium, Praseodymium, Cobalt, Manganese, Zinc, Aluminium

Contains plastics: Polyamide, Polypropylene, Polyvinyl chloride, Polyethylene, Rubber

Electrolyte: Potassium hydroxide, Sodium hydroxide, Lithium hydroxide, Water

Relevant ingredients:

| CAS No. | Designation | Concentration | Classification |
|----------------|---------------------|---------------|--|
| CAS 7440-02-0 | Nickel | 30 - 50 % | Sensitization - skin 1. Carcinogenicity 2. Specific Target Organ Toxicity (Repeated Exposure) 1. Aquatic toxicity - chronic 3. |
| CAS 12054-48-7 | Nickel dihydroxide | 30 - 50 % | Acute Toxicity 4 (oral). Acute Toxicity 4 (inhalative). Skin Irritation 2. Respiratory Sensitizer 1. Sensitization - skin 1. Germ cell mutagenicity 2. Carcinogenicity 1A. Reproductive toxicity 1B. Specific Target Organ Toxicity (Repeated Exposure) 1. Aquatic toxicity - acute 1. Aquatic toxicity - chronic 1. |
| CAS 1313-99-1 | Nickel monoxide | 30 - 50 % | Sensitization - skin 1. Carcinogenicity 1A. Specific Target Organ Toxicity (Repeated Exposure) 1. Aquatic toxicity - chronic 4. |
| CAS 1310-58-3 | Potassium hydroxide | < 7 % | Corrosive to Metals 1. Acute Toxicity 4 (oral). Skin Corrosion 1A. |
| CAS 7440-48-4 | Cobalt | 2 - 6 % | Acute Toxicity 4 (oral). Acute Toxicity 1 (inhalative). Eye Irritation 2A. Respiratory Sensitizer 1. Sensitization - skin 1. Carcinogenicity 1B. Reproductive toxicity 2. Aquatic toxicity - acute 1 (M-factor = 10). Aquatic toxicity - chronic 1. |
| CAS 1310-73-2 | Sodium hydroxide | 0 - 4 % | Corrosive to Metals 1. Skin Corrosion 1A. |
| CAS 1310-65-2 | Lithium hydroxide | 0 - 4 % | Acute Toxicity 4 (oral). Skin Corrosion 1A. |

Additional information: The maximum workplace exposure limits are, where necessary, listed in section 8.

4. First aid measures

| | |
|-------------------------|---|
| General information: | In case of damaged battery cases / In case of exposure to hazardous ingredients: Take off immediately all contaminated clothing. First aider: Pay attention to self-protection! |
| In case of inhalation: | Provide fresh air. Keep victim at rest in half upright position. If breathing has stopped, give artificial respiration immediately. Seek medical attention. |
| Following skin contact: | Immediately clean with water and soap and, if available, apply a generous amount of polyethylene glycol 400 or protective skin cream. Wash contaminated clothing before reuse. Subsequently consult 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. Seek the attention of an ophthalmologist immediately. |
| After swallowing: | Rinse mouth with water. Drink large quantities of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Do not try to neutralize. Immediately get medical attention. |

Most important symptoms and effects, both acute and delayed

The battery is hermetically sealed. No hazardous reaction when handled and stored according to provisions.

In case of damaged battery cases / In case of exposure to hazardous ingredients:

Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Information to physician

Treat symptomatically. Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

5. Fire fighting measures

Flash point/flash point range:

Not applicable

Auto-ignition temperature: No data available

Suitable extinguishing media:

Dry extinguishing powder

Extinguishing media which must not be used for safety reasons:

Water

Specific hazards arising from the chemical

In case of fire may be liberated: toxic gases/vapours (metal oxide smoke), corrosive gases/vapors, 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:

Exposure to fire may cause containers to rupture/explode.

Cool endangered containers with water spray and, if possible, remove from danger zone.

Do not allow fire water to penetrate into surface or ground water.

6. Accidental release measures

Personal precautions:

Avoid exposure. Provide adequate ventilation. Eliminate all ignition sources if safe to do so.

In case of damaged battery cases:

Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Keep unprotected people away.

Avoid generation of dust. Do not inhale vapors or dust particles. Avoid contact with skin and eyes.

Avoid contact with liquid and vapor.

Environmental precautions:

Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary. If necessary, notify appropriate authorities.

| | |
|-------------------------|--|
| Methods for clean-up: | In case of damaged battery cases: Plug leak if safely possible. Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder. Store in special closed containers and dispose of according to ordinance. |
| Additional information: | Avoid short circuit. Danger of releasing ingredients, mentioned in section 3, by damaging the battery <ul style="list-style-type: none"> - with strong mechanical action, - in case of heating and/or fire, - with influence of water, - short circuit. |

7. Handling and storage

Handling

| | |
|---|--|
| Advices on safe handling: | Provide adequate ventilation, and local exhaust as needed. Avoid contact with skin and eyes. In case of damaged battery cases: Avoid exposure. Avoid generation of dust. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. |
| Precautions against fire and explosion: | Avoid short circuit. Eliminate all ignition sources if safe to do so. |

Storage

| | |
|---|---|
| Requirements for storerooms and containers: | Keep container tightly closed and dry. Store at room temperature. Protect from: humidity, heat, UV-radiation/sunlight. Storage temperature: 5 °C up to 25 °C Air humidity: 60% up to 70% |
| Hints on joint storage: | Do not store together with strong acids, strong oxidizing agents, alkalis, conductive material(s). Keep away from food, drink and animal feedingstuffs. |
| Further details: | Avoid damage to the battery casing. Charging temperature: 0 °C up to 45 °C Discharging temperature: -20 °C up to 60 °C |

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

| CAS No. | Designation | Type | Limit value |
|------------|---------------------|---------------------|---|
| 7440-02-0 | Nickel | Canada: OEL 8 hour | 1.5 mg/m ³ (metal) |
| | | Canada: OEL TWA | 0.05 mg/m ³ (compounds, insoluble) |
| | | Canada: OEL TWA | 0.05 mg/m ³ (compounds, soluble) |
| | | Canada: OEL TWA | 1 mg/m ³ (metal, inhalable fraction) |
| | | Canada: VEMP | 1.5 mg/m ³ (inhalable fraction) |
| | | USA: ACGIH: TWA | 1.5 mg/m ³ (metal, inhalable fraction) |
| | | USA: IDLH: TWA | 10 Ni/m3 |
| | | USA: NIOSH: TWA | 0.015 mg/m ³ |
| | | USA: OSHA: TWA | 1 mg/m ³ |
| | | | (metal and insoluble compounds) |
| | | USA: OSHA: TWA | 1 mg/m ³ |
| | | | (metal and soluble compounds) |
| 12054-48-7 | Nickel dihydroxide | USA: IDLH: TWA | 10 Ni/m3 |
| 7439-89-6 | Iron | USA: ACGIH: TWA | 10 mg/m ³ (smoke, dust) |
| | | USA: OSHA: TWA | 10 mg/m ³ (Smoke) |
| 1310-58-3 | Potassium hydroxide | Canada: OEL Ceiling | 2 mg/m ³ |
| | | Canada: Plafond | 2 mg/m ³ |
| | | USA: ACGIH: Ceiling | 2 mg/m ³ |
| | | USA: NIOSH: Ceiling | 2 mg/m ³ |
| 7440-48-4 | Cobalt | Canada: OEL 8 hour | 0.02 mg/m ³ |
| | | Canada: OEL TWA | 0.02 mg/m ³ |
| | | | (Cobalt and compounds, inorganic; inhalable fraction) |
| | | Canada: VEMP | 0.02 mg/m ³ |
| | | | (Aerosol, inhalable fraction) |
| | | USA: ACGIH: TWA | 0.02 mg/m ³ (inhalable fraction) |
| | | USA: IDLH: TWA | 20 Co/m3 (metal; Dusts and Smoke) |
| | | USA: NIOSH: TWA | 0.05 mg/m ³ |
| | | USA: OSHA: TWA | 0.1 mg/m ³ (metal; Dusts; Smoke) |
| 1310-73-2 | Sodium hydroxide | Canada: OEL Ceiling | 2 mg/m ³ |
| | | Canada: Plafond | 2 mg/m ³ |
| | | USA: ACGIH: Ceiling | 2 mg/m ³ |
| | | USA: IDLH: TWA | 10 mg/m ³ |
| | | USA: NIOSH: Ceiling | 2 mg/m ³ |
| | | USA: OSHA: TWA | 2 mg/m ³ |
| 1310-65-2 | Lithium hydroxide | Canada: OEL Ceiling | 1 mg/m ³ |
| | | Canada: OEL STEL | 1 mg/m ³ |

| CAS No. | Designation | Type | Limit value |
|-----------|-------------|---------------------|--|
| 7439-96-5 | Manganese | Canada: OEL TWA | 0.02 mg/m ³ (respirable fraction) |
| | | Canada: OEL TWA | 0.1 mg/m ³ (inhalable fraction) |
| | | Canada: OEL TWA | 0.2 mg/m ³ |
| | | Canada: VEMP | 0.05 mg/m ³ |
| | | | (Aerosol, respirable fraction) |
| | | Canada: VEMP | 0.2 mg/m ³ |
| | | | (Aerosol, inhalable fraction) |
| | | USA: ACGIH: TWA | 0.02 mg/m ³ (respirable fraction) |
| | | USA: ACGIH: TWA | 0.1 mg/m ³ (inhalable fraction) |
| | | USA: IDLH: TWA | 500 Mn/m ³ |
| 7429-90-5 | Aluminium | USA: NIOSH: STEL | 3 mg/m ³ |
| | | USA: NIOSH: TWA | 1 mg/m ³ |
| | | USA: OSHA: Ceiling | 5 mg/m ³ |
| | | Canada: OEL 8 hour | 10 mg/m ³ (metal, dust) |
| | | Canada: OEL 8 hour | 5 mg/m ³ |
| | | | (Aluminium powder, pyrotechnic) |
| | | Canada: OEL TWA | 1 mg/m ³ (Pyrotechnical powders) |
| | | USA: ACGIH: TWA | 1 mg/m ³ |
| | | USA: NIOSH: Ceiling | 5 mg/m ³ (inhalable fraction) |
| | | USA: NIOSH: TWA | 10 mg/m ³ (inhalable fraction) |
| 9002-86-2 | PVC | USA: NIOSH: TWA | 5 mg/m ³ (inhalable fraction) |
| | | USA: OSHA: TWA | 15 mg/m ³ (inhalable fraction) |
| | | USA: OSHA: TWA | 5 mg/m ³ (respirable fraction) |
| | | Canada: OEL TWA | 1 mg/m ³ |
| | | USA: ACGIH: TWA | 1 mg/m ³ (respirable fraction) |
| | | | |

Biological limit values:

| CAS No. | Designation | Type | Limit value | Parameter | Sampling |
|-----------|-------------|-----------------------|-------------|--|----------------------------------|
| 7440-48-4 | Cobalt | USA: ACGIH-BEI, urine | 15 µg/L | Cobalt; not combined with Tungsten Carbide | end of shift at end of work week |

Additional information: The battery is hermetically sealed.

Engineering controls

In case of damaged battery cases: Provide adequate ventilation.

The use of local exhaust ventilation is recommended.

See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: In case of damaged battery cases:
Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: In case of damaged battery cases:
Wear appropriate protective equipment.
In case of damaged battery cases:
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: nitrile rubber or neoprene.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: In case of damaged battery cases:
For short or minimal exposure: respiratory filter; in cases of longer exposure: supplied air respirator.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

General hygiene considerations:
Keep away from sources of ignition - No smoking.
Avoid contact with skin and eyes. Take off immediately all contaminated clothing.
Safety shower and eye wash station should be easily accessible to the work area.
When using do not eat or drink. Wash hands before breaks and after work.
Keep away from food, drink and animal feedingstuffs.
In case of damaged battery cases:
Do not inhale vapors or dust particles. Avoid contact with the product.

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 20 °C and 101.3 kPa: solid Form: Cells: 5 (plastic casing) Color: beige |
| Odor: | No data available |
| Odor threshold: | No data available |
| pH: | Not applicable |
| Melting point/freezing point: | No data available |
| Initial boiling point and boiling range: | No data available |
| Flash point/flash point range: | Not applicable |
| Evaporation rate: | No data available |
| Flammability: | No data available |
| Explosion limits: | No data available |
| Vapor pressure: | No data available |
| Vapor density: | No data available |
| Density: | No data available |
| Solubility: | No data available |
| Partition coefficient: n-octanol/water: | No data available |
| Auto-ignition temperature: | No data available |
| Thermal decomposition: | No data available |
| Additional information: | Weight: approx. 80 g |

10. Stability and reactivity

Reactivity: In case of damaged battery cases:
May be corrosive to metals.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions:

Fire hazard in case of technical defects.

In case of damaged battery cases:

Information about Potassium hydroxide and Sodium hydroxide:

Reacts with metals and light metals. Formation of hydrogen. Danger of explosion!

Conditions to avoid:

Humidity, heat, UV-radiation/sunlight.

Avoid short circuit.

In case of damaged battery cases:

Keep away from sources of ignition - No smoking.

Incompatible materials:

Strong acids, strong oxidizing agents, alkalis, conductive material(s).

Thermal decomposition:

No data available

11. Toxicological information

Toxicological tests

Toxicological effects:

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

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): Lack of data.

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

Aspiration hazard: Lack of data.

Other information:

In case of damaged battery cases:

Harmful if swallowed or if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity

Aquatic toxicity: In case of damaged battery cases:
Very toxic to aquatic life with long lasting effects.

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

General information: Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary.
Avoid spills and leaks. Very small amounts contaminates drinking water.

13. Disposal considerations

Product

Recommendation: Product contains metallic oxides containing heavy metals.
Recycling or special waste incineration.

Package

Recommendation: Dispose of waste according to applicable legislation.

14. Transport information

UN number

ADR/RID, IMDG, IATA-DGR:
UN 3496

UN proper shipping name

ADR/RID: UN 3496, Batteries, nickel-metal hydride
IMDG, IATA-DGR: UN 3496, BATTERIES, NICKEL-METAL HYDRIDE

Transport hazard class(es)

ADR/RID: Class 9, Code: M11
IMDG: Class 9, Subrisk -
IATA-DGR: Class 9

Packing group

ADR/RID, IATA-DGR: not applicable
IMDG: -

Environmental hazards

Marine pollutant: no

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: UN3496
 Proper shipping name: UN 3496, BATTERIES, NICKEL-METAL HYDRIDE
 Hazard class or Division: 9
 Labels: 9
 Symbols: W
 Special Provisions: 340
 Vessel stowage – Location: A
 Vessel stowage – Other: 25



Canada: Transportation of Dangerous Goods (TDG)

UN Number: UN3496
 Shipping name: UN 3496, Batteries, nickel-metal hydride
 TDG class: 9
 Special provisions: 97
 Explosive limit and limited quantity index: 0

Sea transport (IMDG)

UN number: UN 3496
 Proper shipping name: UN 3496, BATTERIES, NICKEL-METAL HYDRIDE
 Class or division, Subsidiary risk: Class 9, Subrisk -
 Packing Group: -
 EmS: F-A, S-I
 Special Provisions: 117 963
 Limited quantities: 0
 Excepted quantities: E0
 Package - Instructions: See SP963
 Package - Provisions: -
 IBC - Instructions: IBC08
 IBC - Provisions: -
 Tank instructions - IMO: -
 Tank instructions - UN: -
 Tank instructions - Provisions: -
 Stowage and handling: Category A. SW1
 Properties and observations: Nickel-metal hydride cells or batteries packed with or contained in equipment and nickel-metal hydride button cells are not subject to provisions of this code.
 Marine pollutant: no
 Segregation group: none

Air transport (IATA)

UN/ID number: UN 3496
 Proper shipping name: UN 3496, BATTERIES, NICKEL-METAL HYDRIDE
 Class or division, Subsidiary risk: Class 9
 Passenger and Cargo Aircraft: Ltd.Qty.: Forbidden
 Passenger and Cargo Aircraft: Pack.Instr. SeeA199 - Max. Net Qty/Pkg. SeeA199
 Cargo Aircraft only: Pack.Instr. SeeA199 - Max. Net Qty/Pkg. SeeA199
 Special Provisions: A199
 Emergency Response Guide-Code (ERG): 9L

15. Regulatory information

National regulations - Canada

| | |
|----------------------|-------------|
| Nickel: | DSL: listed |
| Nickel dihydroxide: | DSL: listed |
| Nickel monoxide: | DSL: listed |
| Iron: | DSL: listed |
| Lanthanum: | DSL: listed |
| Cerium: | DSL: listed |
| Water: | DSL: listed |
| Potassium hydroxide: | DSL: listed |
| Cobalt: | DSL: listed |
| Sodium hydroxide: | DSL: listed |
| Lithium hydroxide: | DSL: listed |
| Polypropylene: | DSL: listed |
| Manganese: | DSL: listed |
| Aluminium: | DSL: listed |
| PVC: | DSL: listed |
| Polyethylene: | DSL: listed |
| EPDM: | DSL: listed |

National regulations - U.S. Federal Regulations

This product is an article as defined by TSCA regulations, and is exempt from TSCA inventory listing requirements.

National regulations - U.S. State Regulations

| | |
|----------------------|--|
| Nickel: | California Proposition 65: cancer |
| Nickel dihydroxide: | California Proposition 65: cancer |
| Nickel monoxide: | California Proposition 65: cancer |
| Potassium hydroxide: | California Proposition 65 code: not listed Delaware Air Quality Management List: DRQ: 1000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 0.1 - EL: 0.133 - OEL: 2 - Title 586: - Massachusetts Haz. Substance codes: 4,5 F8 New York List of Hazardous Substances: RQ-Air: 1000 - RQ-Land: 100 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: Ceiling: 2 mg |
| Cobalt: | California Proposition 65: cancer |
| Sodium hydroxide: | Delaware Air Quality Management List: DRQ: 1000 - RQ State: Federal Regulations Apply Idaho Air Pollutant List: Title 585: AAC: 0,1 - EL: 0,133 - OEL: 2 - Title 586: AAAC: - EL: - OEF: - Massachusetts Haz. Substance codes: 2,4,5 F8 F9 Minnesota Haz. Substance: Codes: AO - Ratings: - Status: Title III. New York List of Hazardous Substances: RQ-Air: 1000 - RQ-Land: 100 - Note: No Note Associated with this chemical. Pennsylvania Haz. Substance code: E Washington Air Contaminant: Ceiling: 2 mg |
| Lithium hydroxide: | California Proposition 65 code: not listed Minnesota Haz. Substance: Codes: I - Ratings: -- |

National regulations - EC member states

Further regulations, limitations and legal requirements:

| | |
|------------|--|
| Aluminium: | Regulation (EU) 2019/1148 (marketing and use of explosives precursors): listed |
|------------|--|

16. Other information

Hazard rating systems:



NFPA Hazard Rating:

Health: 0 (Minimal)

Fire: 1 (Slight)

Reactivity: 1 (Slight)

HMIS Version III Rating:

Health: 0 (Minimal)

Flammability: 1 (Slight)

Physical Hazard: 1 (Slight)

Personal Protection: X = Consult your supervisor

| | |
|-----------------|---|
| HEALTH | 0 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 1 |
| | X |

Abbreviations and acronyms:

Acute Toxicity: Acute toxicity
 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
 Carcinogenicity: Carcinogenicity
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 Corrosive to Metals: Corrosive to metals
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 EC: European Community
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 Eye Irritation: Eye irritation
 Germ cell mutagenicity: Mutagenicity
 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
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 M-factor: Multiplication factor
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 Reproductive toxicity: Reproductive toxicity
 Respiratory Sensitizer: Sensitisation to the respiratory tract
 RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
 Sensitization - skin: Skin sensitisation
 Skin Corrosion: Skin corrosion
 Skin Irritation: Skin irritation
 STOT RE: Specific target organ toxicity - repeated exposure
 TRGS: Technical Rules for Hazardous Substances
 TSCA: Toxic Substance Control Act
 UN: United Nations
 UV: Ultraviolet
 vPvB: Very persistent and very bioaccumulative
 WHMIS: Workplace Hazardous Materials Information System

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

Date of first version: 17/1/2017

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.