

## Vorinostat Formulation

|         |                |             |                                 |
|---------|----------------|-------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 30.09.2023  |
| 6.2     | 14.04.2025     | 42858-00022 | Date of first issue: 06.01.2015 |

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Vorinostat Formulation

**Manufacturer or supplier's details**

Company name of supplier : MSD  
Address : 126 E. Lincoln Avenue  
Rahway, New Jersey U.S.A. 07065  
Telephone : 908-740-4000  
Emergency telephone : 1-908-423-6000  
E-mail address : EHSDATASTEWARD@msd.com

**Recommended use of the chemical and restrictions on use**

Recommended use : Pharmaceutical  
Restrictions on use : Not applicable

## SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification**

Acute toxicity (Oral) : Category 5  
Germ cell mutagenicity : Category 2  
Reproductive toxicity : Category 1B  
Specific target organ toxicity - repeated exposure (Oral) : Category 1 (Blood, thymus gland, Bone marrow, spleen, Gastro-intestinal tract)

**GHS label elements**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H303 May be harmful if swallowed.  
H341 Suspected of causing genetic defects.  
H360FD May damage fertility. May damage the unborn child.  
H372 Causes damage to organs (Blood, thymus gland, Bone marrow, spleen, Gastrointestinal tract) through prolonged or repeated exposure if swallowed.

Precautionary Statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/ protective clothing/ eye protection/

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face protection.

**Response:**

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

Dust contact with the eyes can lead to mechanical irritation.

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No.     | Concentration (% w/w) |
|---------------|-------------|-----------------------|
| Vorinostat    | 149647-78-9 | >= 50 -< 70           |
| Cellulose     | 9004-34-6   | >= 20 -< 30           |

**SECTION 4. FIRST AID MEASURES**

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : If in eyes, rinse well with water.  
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Contact with dust can cause mechanical irritation or drying of the skin.  
Dust contact with the eyes can lead to mechanical irritation.  
May be harmful if swallowed.  
Suspected of causing genetic defects.  
May damage fertility. May damage the unborn child.  
Causes damage to organs through prolonged or repeated exposure if swallowed.

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|                            |   |   |
|----------------------------|---|---|
| Protection of first-aiders | : | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| Notes to physician         | : | Treat symptomatically and supportively.   |

**SECTION 5. FIRE-FIGHTING MEASURES**

|  |   |   |
|--|---|---|
| Suitable extinguishing media                   | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical  |
| Unsuitable extinguishing media                 | : | None known.   |
| Specific hazards during fire fighting          | : | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.<br>Exposure to combustion products may be a hazard to health.                   |
| Hazardous combustion products                  | : | Carbon oxides<br>Metal oxides   |
| Specific extinguishing methods                 | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment.  |

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

|   |   |  |
|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).   |
| Environmental precautions   | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained.  |
| Methods and materials for containment and cleaning up               | : | Sweep up or vacuum up spillage and collect in suitable container for disposal.<br>Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).<br>Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.<br>Local or national regulations may apply to releases and |

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disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

## SECTION 7. HANDLING AND STORAGE

- Technical measures : Static electricity may accumulate and ignite suspended dust causing an explosion.  
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Do not breathe dust.  
Do not swallow.  
Avoid contact with eyes.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Minimize dust generation and accumulation.  
Keep container closed when not in use.  
Keep away from heat and sources of ignition.  
Take precautionary measures against static discharges.  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.
- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Keep tightly closed.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Self-reactive substances and mixtures  
Organic peroxides  
Explosives  
Gases

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Ingredients with workplace control parameters

| Components | CAS-No. | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis |
|------------|---------|----------------------------------|--|-------|
|------------|---------|----------------------------------|--|-------|

# SAFETY DATA SHEET



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|            |             |            |                           |                   |
|------------|-------------|------------|---------------------------|-------------------|
| Vorinostat | 149647-78-9 | TWA        | 5 µg/m <sup>3</sup>       | Internal          |
|            |             | Wipe limit | 50 µg/100 cm <sup>2</sup> | Internal          |
| Cellulose  | 9004-34-6   | VLE-PPT    | 10 mg/m <sup>3</sup>      | NOM-010-STPS-2014 |
|            |             | TWA        | 10 mg/m <sup>3</sup>      | ACGIH             |

**Engineering measures** : Minimize workplace exposure concentrations.  
Apply measures to prevent dust explosions.  
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).  
If sufficient ventilation is unavailable, use with local exhaust ventilation.

### Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often!  
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:  
Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Color : No data available

Odor : odorless

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

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|  |   |   |
|--|---|---|
| Initial boiling point and boiling range          | : | No data available   |
| Flash point                                      | : | No data available   |
| Evaporation rate                                 | : | No data available   |
| Flammability (solid, gas)                        | : | May form explosive dust-air mixture during processing, handling or other means. |
| Flammability (liquids)                           | : | No data available   |
| Upper explosion limit / Upper flammability limit | : | No data available   |
| Lower explosion limit / Lower flammability limit | : | No data available   |
| Vapor pressure                                   | : | No data available   |
| Relative vapor density                           | : | No data available   |
| Density  | : | No data available   |
| Solubility(ies)                                  |   |   |
| Water solubility                                 | : | No data available   |
| Partition coefficient: n-octanol/water           | : | No data available   |
| Autoignition temperature                         | : | No data available   |
| Decomposition temperature                        | : | No data available   |
| Viscosity  |   |   |
| Viscosity, dynamic                               | : | No data available   |
| Viscosity, kinematic                             | : | No data available   |
| Explosive properties                             | : | Not explosive   |
| Oxidizing properties                             | : | The substance or mixture is not classified as oxidizing.                        |
| Molecular weight                                 | : | No data available   |
| Particle characteristics                         |   |   |
| Particle size                                    | : | No data available   |

**SECTION 10. STABILITY AND REACTIVITY**

|                                |   |  |
|--------------------------------|---|--|
| Reactivity                     | : | Not classified as a reactivity hazard.                 |
| Chemical stability             | : | Stable under normal conditions.                        |
| Possibility of hazardous reac- | : | May form explosive dust-air mixture during processing, |

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|                                  |   |
|----------------------------------|---|
| tions                            | handling or other means.<br>Can react with strong oxidizing agents. |
| Conditions to avoid              | : Heat, flames and sparks.<br>Avoid dust formation.                 |
| Incompatible materials           | : Oxidizing agents  |
| Hazardous decomposition products | : No hazardous decomposition products are known.                    |

## SECTION 11. TOXICOLOGICAL INFORMATION

## Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

## Acute toxicity

May be harmful if swallowed.

**Product:**

Acute oral toxicity : Acute toxicity estimate: 3,788 mg/kg  
Method: Calculation method

**Components:****Vorinostat:**

Acute oral toxicity : LD50 (Mouse): > 2,000 mg/kg  
LD50 (Rat): > 750 mg/kg

Acute toxicity (other routes of administration) : LDLo (Mouse): 1,250 mg/kg  
Application Route: Intravenous  
Exposure time: 4 h

**Cellulose:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.8 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Vorinostat:**

Species : Rabbit  
Result : No skin irritation

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**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Vorinostat:**

|         |   |                   |
|---------|---|-------------------|
| Species | : | Bovine cornea     |
| Result  | : | No eye irritation |

**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Components:****Vorinostat:**

|                    |   |                               |
|--------------------|---|-------------------------------|
| Test Type          | : | Local lymph node assay (LLNA) |
| Routes of exposure | : | Skin contact                  |
| Species            | : | Mouse                         |
| Result             | : | Not a skin sensitizer.        |

**Germ cell mutagenicity**

Suspected of causing genetic defects.

**Components:****Vorinostat:**

|                                     |   |  |
|-------------------------------------|---|--|
| Genotoxicity in vitro               | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: positive<br><br>Test Type: Chromosome aberration test in vitro<br>Test system: Chinese hamster ovary cells<br>Result: positive<br><br>Test Type: Chromosome aberration test in vitro<br>Test system: Human lymphocytes<br>Result: negative |
| Genotoxicity in vivo                | : | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse<br>Application Route: Oral<br>Result: positive  |
| Germ cell mutagenicity - Assessment | : | Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.   |

**Cellulose:**

|                       |   |  |
|-----------------------|---|--|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative |
|-----------------------|---|--|



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Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Components:****Cellulose:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 72 weeks  
Result : negative

**Reproductive toxicity**

May damage fertility. May damage the unborn child.

**Components:****Vorinostat:**

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: Rat, female  
Application Route: Oral  
Fertility: LOAEL: 15 mg/kg body weight  
Result: Preimplantation loss., Increased resorptions.

Test Type: Fertility/early embryonic development  
Species: Rat, male  
Application Route: Oral  
Fertility: NOAEL: 150 mg/kg body weight  
Result: No effects on fertility.

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 50 mg/kg body weight  
Result: positive

Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 15 mg/kg body weight  
Result: positive

Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Oral

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Developmental Toxicity: LOAEL: 150 mg/kg body weight  
Result: Embryotoxic effects.

Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 50 mg/kg body weight  
Result: Embryotoxic effects.

Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: LOAEL: 15 mg/kg body weight  
Result: Malformations were observed.

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

**Cellulose:**

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Fertility/early embryonic development  
Species: Rat  
Application Route: Ingestion  
Result: negative

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Causes damage to organs (Blood, thymus gland, Bone marrow, spleen, Gastrointestinal tract) through prolonged or repeated exposure if swallowed.

**Components:****Vorinostat:**

Routes of exposure : Ingestion  
Target Organs : Blood, thymus gland, Bone marrow, spleen, Gastrointestinal tract  
Assessment : Causes damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity****Components:****Vorinostat:**

Species : Rat  
LOAEL : 20 mg/kg

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Application Route : Oral  
Exposure time : 6 Months  
Target Organs : Blood, thymus gland, Bone marrow, spleen

Species : Dog  
NOAEL : 60 mg/kg  
LOAEL : 160 mg/kg  
Application Route : Oral  
Exposure time : 6 Months  
Target Organs : Gastrointestinal tract

Species : Dog  
NOAEL : 40 mg/kg  
LOAEL : 100 mg/kg  
Application Route : Oral  
Exposure time : 4 Weeks  
Target Organs : Blood

**Cellulose:**

Species : Rat  
NOAEL :  $\geq 9,000$  mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure****Components:****Vorinostat:**

Ingestion : Symptoms: Diarrhea, Fatigue, Nausea, anorexia

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Vorinostat:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)):  $> 10$  mg/l  
Exposure time: 96 h

LC50 (Cyprinodon variegatus (sheepshead minnow)):  $> 10$  mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)):  $> 10$  mg/l  
aquatic invertebrates Exposure time: 48 h

EC50 (Americamysis): 7.4 mg/l  
Exposure time: 96 h

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Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.183 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.011 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 1.5 mg/l  
Exposure time: 33 d  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.15 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h  
Test Type: Respiration inhibition

**Cellulose:**

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l  
Exposure time: 48 h  
Remarks: Based on data from similar materials

**Persistence and degradability****Components:****Vorinostat:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 39.5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 314

**Cellulose:**

Biodegradability : Result: Readily biodegradable.

**Bioaccumulative potential****Components:****Vorinostat:**

Partition coefficient: n-octanol/water : log Pow: 1.42

**Mobility in soil****Components:****Vorinostat:**

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Distribution among environmental compartments : log K<sub>oc</sub>: 3.37

**Other adverse effects**

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

|                        |   |
|------------------------|---|
| Waste from residues    | : Do not dispose of waste into sewer.<br>Dispose of in accordance with local regulations.   |
| Contaminated packaging | : Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>If not otherwise specified: Dispose of as unused product. |

**SECTION 14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

|                           |  |
|---------------------------|--|
| UN number                 | : UN 3077  |
| Proper shipping name      | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.<br>(Vorinostat) |
| Class                     | : 9  |
| Packing group             | : III  |
| Labels                    | : 9  |
| Environmentally hazardous | : yes  |

**IATA-DGR**

|  |  |
|--|--|
| UN/ID No.                                | : UN 3077  |
| Proper shipping name                     | : Environmentally hazardous substance, solid, n.o.s.<br>(Vorinostat) |
| Class                                    | : 9  |
| Packing group                            | : III  |
| Labels                                   | : Miscellaneous  |
| Packing instruction (cargo aircraft)     | : 956  |
| Packing instruction (passenger aircraft) | : 956  |
| Environmentally hazardous                | : yes  |

**IMDG-Code**

|                      |  |
|----------------------|--|
| UN number            | : UN 3077  |
| Proper shipping name | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.<br>(Vorinostat) |
| Class                | : 9  |
| Packing group        | : III  |
| Labels               | : 9  |
| EmS Code             | : F-A, S-F   |
| Marine pollutant     | : yes  |

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

Not applicable for product as supplied.

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**Domestic regulation****NOM-002-SCT**

|                      |   |  |
|----------------------|---|--|
| UN number            | : | UN 3077  |
| Proper shipping name | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.<br>(Vorinostat) |
| Class                | : | 9  |
| Packing group        | : | III  |
| Labels               | : | 9  |

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**SECTION 15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**

Federal Law for the control of chemical precursors, essential chemical products and machinery for producing capsules, tablets and pills. : Not applicable

**The ingredients of this product are reported in the following inventories:**

|       |   |                |
|-------|---|----------------|
| AICS  | : | not determined |
| DSL   | : | not determined |
| IECSC | : | not determined |

**SECTION 16. OTHER INFORMATION**

|               |   |            |
|---------------|---|------------|
| Revision Date | : | 14.04.2025 |
| Date format   | : | dd.mm.yyyy |

**Full text of other abbreviations**

|                                 |   |   |
|---------------------------------|---|---|
| ACGIH                           | : | USA. ACGIH Threshold Limit Values (TLV)   |
| NOM-010-STPS-2014               | : | Mexico. Norm NOM-010-STPS-2014 on Chemicals Polluting the Work Environment - Identification, Assessment and Control - Appendix 1 Occupational Exposure Limits |
| ACGIH / TWA                     | : | 8-hour, time-weighted average   |
| NOM-010-STPS-2014 / VLE-<br>PPT | : | Time weighted average limit value   |

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with

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x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

The information is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

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