# • SAFETY DATA SHEET

Version 7.4
Revision Date 11/04/2025
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## SECTION 1. IDENTIFICATION

### 1.1 Product identifiers

Product name : 2-Vinylpyridine

Product Number : 132292
Brand : Aldrich
CAS-No. : 100-69-6

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

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

### 1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

**Hazards for the product as supplied**

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 3

Skin corrosion : Category 1B

Serious eye damage : Category 1

| | | |
|---|---|---|
| Skin sensitisation | : | Category 1 |
| Short-term (acute) aquatic hazard | : | Category 2 |
| Long-term (chronic) aquatic hazard | : | Category 2 |

**Other hazards**

Corrosive to the respiratory tract.

**GHS label elements**

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do

NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

**Disposal:**

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

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 100-69-6

**Components**

| Chemical name | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|---|---|---|---|
| 2-Vinylpyridine | 100-69-6* | >= 90 - <= 100 | - |
| 4-tert-butylpyrocatechol | 98-29-3* | >= 0.1 - < 1 | - |

* Indicates that the identifier is a CAS No.
Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

General advice : First aiders need to protect themselves.
Show this safety data sheet to the doctor in attendance.

| | | |
|---|---|---|
| If inhaled | : | After inhalation: fresh air. Call in physician. |
| In case of skin contact | : | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately. |
| In case of eye contact | : | After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses. |
| If swallowed | : | After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise. |
| Most important symptoms and effects, both acute and delayed | : | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| Protection of first-aiders | : | For personal protection see section 8. |
| Notes to physician | : | No data available |

## SECTION 5. FIREFIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water<br>Foam<br>Carbon dioxide (CO2)<br>Dry powder |
| Unsuitable extinguishing media | : | For this substance/mixture no limitations of extinguishing agents are given. |
| Specific hazards during fire fighting | : | Combustible.<br><br>Vapours are heavier than air and may spread along floors.<br><br>Forms explosive mixtures with air at elevated temperatures.<br><br>Development of hazardous combustion gases or vapours possible in the event of fire. |

| | | |
|---|---|---|
| Hazardous combustion products | : | Carbon oxides<br><br>Nitrogen oxides (NOx) |
| Specific extinguishing methods | : | No data available |
| Further information | : | Remove container from danger zone and cool with water.<br>Suppress (knock down) gases/vapours/mists with a water spray jet.<br>Prevent fire extinguishing water from contaminating surface water or the ground water system. |
| Special protective equipment for fire-fighters | : | Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Advice for non-emergency personnel:<br>Do not breathe vapours, aerosols.<br>Avoid substance contact.<br>Ensure adequate ventilation.<br>Keep away from heat and sources of ignition.<br>Evacuate the danger area, observe emergency procedures, consult an expert.<br>Advice for emergency responders:<br>For personal protection see section 8. |
| Environmental precautions | : | Do not let product enter drains.<br>Risk of explosion. |
| Methods and materials for containment and cleaning up | : | Cover drains. Collect, bind, and pump off spills.<br>Observe possible material restrictions (see sections 7 and 10).<br>Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area. |

## SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

| | | |
|---|---|---|
| Advice on protection against fire and explosion | : | Keep away from open flames, hot surfaces and sources of ignition. |

Take precautionary measures against static discharge.

| | | |
|---|---|---|
| Further information on storage conditions | : | Keep container tightly closed in a dry and well-ventilated place.<br>Keep away from heat and sources of ignition.<br>Keep locked up or in an area accessible only to qualified or authorised persons. |
| Storage class | : | 3, Flammable liquids |
| Recommended storage temperature | : | -4 °F / -20 °C |
| Further information on storage stability | : | Heat sensitive. |

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| 4-tert-butylpyrocatechol | 98-29-3 | CEIL | 2 mg/m3 | US WEEL |

**Engineering measures** : No data available

**Personal protective equipment**

Respiratory protection : required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

| | | |
|---|---|---|
| Material | : | butyl-rubber |
| Break through time | : | 480 min |
| Glove thickness | : | 0.7 mm |
| Protective index | : | Full contact |

| | | |
|---|---|---|
| Manufacturer | : | Butoject® (KCL 898) |
| Material | : | Nitrile rubber |
| Break through time | : | 30 min |
| Glove thickness | : | 0.4 mm |
| Protective index | : | Splash contact |
| Manufacturer | : | Camatril® (KCL 730 / Aldrich Z677442, Size M) |
| Remarks | : | This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). |
| Eye protection | : | Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).<br>Tightly fitting safety goggles |
| Skin and body protection | : | Flame retardant antistatic protective clothing. |
| Hygiene measures | : | Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | liquid |
| Color | : | colourless, light yellow |
| Odor | : | unpleasant |
| Odor Threshold | : | No data available |
| pH | : | 8 (77 °F / 25 °C) |
| Melting point/ range | : | -58 °F / -50 °C |
| Boiling point/boiling range | : | 174 - 180 °F / 79 - 82 °C (39 hPa)<br>Method: lit. |
| Flash point | : | 122 °F / 50 °C<br>(1013.0 hPa)<br>Method: ASTM D 93, closed cup |

| | | |
|---|---|---|
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Flammability (liquids) | : | No data available |
| Burning rate | : | No data available |
| Upper explosion limit / Upper flammability limit | : | 9.01 %(V) |
| Lower explosion limit / Lower flammability limit | : | 1.03 %(V) |
| Vapor pressure | : | 25 hPa (68 °F / 20 °C) |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Density | : | 0.975 g/cm3 (77 °F / 25 °C)<br>Method: lit. |
| Solubility(ies) | | |
| Water solubility | : | soluble (68 °F / 20 °C)<br>pH: 7 |
| Partition coefficient: n-octanol/water | : | log Pow: 1.54 (77 °F / 25 °C)<br>pH: 6.77<br>Method: OECD Test Guideline 107 |
| Autoignition temperature | : | 824 °F / 440 °C |
| Decomposition temperature | : | No data available |
| Viscosity | | |
| Viscosity, dynamic | : | ca. 1.17 mPa.s (68 °F / 20 °C) |
| Viscosity, kinematic | : | No data available |
| Flow time | : | No data available |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |
| Molecular weight | : | 105.14 g/mol |
| Particle characteristics | | |
| Particle size | : | No data available |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Vapour/air-mixtures are explosive at intense warming. |
| Chemical stability | : | The product is chemically stable under standard ambient conditions (room temperature) . |
| Contains the following stabiliser(s): | : | 4-tert-butylpyrocatechol (0.1 %) |
| Possibility of hazardous reactions | : | Violent reactions possible with:<br>polymerisation initiators<br>Peroxides<br>Strong oxidizing agents<br>Strong acids<br>Strong bases<br>bases |
| Conditions to avoid | : | Heat<br><br>Heating. |
| Incompatible materials | : | No data available |
| Hazardous decomposition products | : | In the event of fire: see section 5 |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**
Acute toxicity estimate Oral - 336.34 mg/kg
(Calculation method)
LD50 Oral - Rat - male and female - 336 mg/kg
Inhalation: No data available
Acute toxicity estimate Dermal - 650.65 mg/kg
(Calculation method)
LD50 Dermal - Rabbit - male and female - 650 mg/kg
No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns. - 1 h

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Risk of serious damage to eyes.

**Respiratory or skin sensitization**
- Guinea pig

Result: May cause sensitisation by skin contact.

**Germ cell mutagenicity**
Test Type: Ames test
Test system: S. typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Species: Mouse

Result: negative

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**
No data available
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

## 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level - 20 mg/kg

RTECS: UU1040000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**2-Vinylpyridine:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oryzias latipes): 6.48 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 9.48 mg/l<br>Exposure time: 48 h<br>Test Type: Immobilization<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Selenastrum capricornutum (green algae)): 50.8 mg/l<br>Exposure time: 72 h<br>Test Type: Growth inhibition<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EC50 (Daphnia magna (Water flea)): 1.06 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211 |
| Toxicity to microorganisms | : | EC50 (Sludge Treatment): 260 mg/l<br>Exposure time: 30 min<br>Test Type: Respiration inhibition<br>Method: OECD Test Guideline 209 |

**4-tert-butylpyrocatechol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Danio rerio (zebra fish)): 0.12 mg/l<br>End point: mortality<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 203<br>GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.48 mg/l<br>End point: Immobilization<br>Exposure time: 48 h<br>Test Type: semi-static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 202<br>GLP: yes |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (algae)): 10.17 mg/l |

Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

NOEC (Pseudokirchneriella subcapitata): 0.2 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.135 mg/l
Exposure time: 21 d
Test Type: flow-through test
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

M-Factor (Chronic aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): 16 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209
GLP: yes

NOEC (activated sludge): 0.6 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209
GLP: yes

**Persistence and degradability**

**Components:**

**2-Vinylpyridine:**

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 50 mg/l
Result: Not readily biodegradable.
Biodegradation: 22.6 %
Exposure time: 28 d

**4-tert-butylpyrocatechol:**

| | | |
|---|---|---|
| Biodegradability | : | aerobic<br>Inoculum: activated sludge<br>Concentration: 20 mg/l<br>Result: Not readily biodegradable.<br>Biodegradation: 24.7 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 310<br><br>aerobic<br>Inoculum: activated sludge<br>Result: Inherently biodegradable.<br>Biodegradation: 91 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 302B<br>GLP: yes |

**Bioaccumulative potential**

**Components:**

**2-Vinylpyridine:**

| | | |
|---|---|---|
| Bioaccumulation | : | Remarks: No data available |
| Partition coefficient: n-octanol/water | : | log Pow: 1.54 (77 °F / 25 °C)<br>pH: 6.77<br>Method: OECD Test Guideline 107 |

**4-tert-butylpyrocatechol:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 1.98 (77 °F / 25 °C)<br>pH: 5.9<br>Method: OECD Test Guideline 107<br>Remarks: Bioaccumulation is not expected. |

**Mobility in soil**

**Components:**

**2-Vinylpyridine:**

| | | |
|---|---|---|
| Stability in soil | : | Remarks: No data available |

**Other adverse effects**

**Product:**

| | | |
|---|---|---|
| Ozone-Depletion Potential | : | Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances<br>Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). |

**Components:**

**4-tert-butylpyrocatechol:**

| | | |
|---|---|---|
| Additional ecological information | : | Discharge into the environment must be avoided. |

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. |

## SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3073 |
| Proper shipping name | : | Vinylpyridines, stabilized |
| Class | : | 6.1 |
| Subsidiary risk | : | 3, 8 |
| Packing group | : | II |
| Labels | : | Division 6.1 - Toxic substances, Class 3 - Flammable liquids, Class 8 - Corrosive substances |
| Packing instruction (cargo aircraft) | : | 660 |
| Packing instruction (passenger aircraft) | : | 653 |

**IMDG-Code**

| | | |
|---|---|---|
| UN number | : | UN 3073 |
| Proper shipping name | : | VINYLPYRIDINES, STABILIZED |
| Class | : | 6.1 |
| Subsidiary risk | : | 3, 8 |
| Packing group | : | II |
| Labels | : | 6.1 (3, 8) |
| EmS Code | : | F-E, S-C |
| Marine pollutant | : | no |

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

**National Regulations**

**49 CFR Road**

| | | |
|---|---|---|
| UN/ID/NA number | : | UN 3073 |
| Proper shipping name | : | Vinylpyridines, stabilized |

| | | |
|---|---|---|
| Class | : | 6.1 |
| Subsidiary risk | : | 3, 8 |
| Packing group | : | II |
| Labels | : | Division 6.1 - Toxic substances, Class 3 - Flammable liquids, Class 8 - Corrosive substances |
| ERG Code | : | 131P |
| Marine pollutant | : | no |
| Poison Inhalation Hazard | : | No |

**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

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

**US State Regulations**

**Massachusetts Right To Know**

No components are subject to the Massachusetts Right to Know Act.

**Maine Chemicals of High Concern**

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern**

Product does not contain any listed chemicals

**Washington Chemicals of High Concern**

Product does not contain any listed chemicals

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

| | | |
|---|---|---|
| TSCA | : | All substances listed as active on the TSCA inventory |

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

## SECTION 16. OTHER INFORMATION

**Full text of other abbreviations**

| | | |
|---|---|---|
| US WEEL | : | USA. Workplace Environmental Exposure Levels (WEEL) |
| US WEEL / CEIL | : | Ceiling |

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No

Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - 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

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Revision Date : 11/04/2025

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