

# SAFETY DATA SHEET

Version 6.9  
Revision Date 14.08.2025  
Print Date 10.07.2026

## SECTION 1: Identification of the hazardous chemical and of the supplier

### 1.1 Product identifiers

Product name : (3-Aminopropyl)triethoxysilane

Product Number : A3648

Brand : Sigma-Aldrich

CAS-No. : 919-30-2

### 1.2 Other means of identification

3-Triethoxysilylpropylamine

APTES

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

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

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

Company : SIGMA-ALDRICH (M) SDN BHD  
199701040579 (456079-T)  
No.4, Jalan U1/26, Section U1,  
HICOM GLENMARIE INDUSTRIAL PARK,  
40150 SHAH ALAM,  
MALAYSIA

Telephone : +60 (0)3-749-43688

Fax : +60 (0)3-749-10850

### 1.5 Emergency telephone number

Emergency Phone # : 1-800-815-308 (CHEMTREC) \* +60 3-  
9212 5794 (CHEMTREC Intl.)

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## SECTION 2: Hazards identification

### Classification of the hazardous chemical

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Category 1B

Serious eye damage/eye irritation : Category 1

Skin sensitisation : Category 1

**Label elements**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.

Precautionary statements : **Prevention:**  
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 should not be allowed out of the workplace.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician 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): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.  
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 or doctor/ physician.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards which do not result in classification**

None known.

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**SECTION 3: Composition and information of the ingredients of the hazardous chemical**

Substance / Mixture : Substance

**Components**

| Chemical name                  | CAS-No.  | Concentration (% w/w) |
|--------------------------------|----------|-----------------------|
| Triethoxy(3-aminopropyl)silane | 919-30-2 | >= 60 -<= 100         |

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**SECTION 4: First aid measures**

|                                                             |                                                                                                                                                                            |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice                                              | : First aiders need to protect themselves.<br>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.<br>Call a physician immediately.                                 |
| In case of eye contact                                      | : After eye contact: rinse out with plenty of water.<br>Immediately call in ophthalmologist.<br>Remove contact lenses.                                                     |
| If swallowed                                                | : After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation).<br>Call a physician immediately.<br>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                                                                                                                                                        |

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**SECTION 5: Firefighting measures****Extinguishing media**

Suitable extinguishing : Carbon dioxide (CO<sub>2</sub>)

| media | Foam | Dry powder |
|-------|------|------------|
|-------|------|------------|

|                                |                                                                                |
|--------------------------------|--------------------------------------------------------------------------------|
| Unsuitable extinguishing media | : For this substance/mixture no limitations of extinguishing agents are given. |
|--------------------------------|--------------------------------------------------------------------------------|

Specific hazards during fire fighting : Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products : Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

silicon oxides

### Special protective equipment and precautions for fire-fighters

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.

|                                |                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------|
| Specific extinguishing methods | : Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air. |
|--------------------------------|-----------------------------------------------------------------------------------------------------|

Remove container from danger zone and cool with water.

Suppress (knock down) gases/vapours/mists with a water spray jet.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

## 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.                                                                                                                                                                                                                                                                                                                 |
| 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 with liquid-absorbent and neutralising material (e.g. Chemizorb® OH <sup>-</sup> , Merck Art. No. 101596).<br>Dispose of properly. Clean up affected area.                                                       |

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## SECTION 7: Handling and storage

### Handling

For precautions see section 2.2.

### Precautions for safe handling

|                                                 |                                                                                                                              |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Advice on protection against fire and explosion | : Keep away from open flames, hot surfaces and sources of ignition.<br>Take precautionary measures against static discharge. |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|

### Storage

#### Conditions for safe storage, including any incompatibilities

|                                           |                                                      |
|-------------------------------------------|------------------------------------------------------|
| Further information on storage conditions | : Tightly closed.                                    |
| Storage class                             | : 8A, Combustible, corrosive hazardous materials     |
| Recommended storage temperature           | : Recommended storage temperature see product label. |
| Further information on storage stability  | : Store under inert gas.<br>Moisture sensitive.      |

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## SECTION 8: Exposure controls and personal protection

### Control parameters

Contains no substances with occupational exposure limit values.

**Appropriate engineering controls** : No data available

**Individual protection measures, such as personal protective equipment (PPE)**

Eye/face protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  
Tightly fitting safety goggles

Skin protection : protective clothing

**Hand protection**

Material : butyl-rubber  
Break through time : 480 min  
Glove thickness : 0.7 mm  
Protective index : Full contact  
Manufacturer : Butoject® (KCL 898)

Material : Viton®  
Break through time : 30 min  
Glove thickness : 0.7 mm  
Protective index : Splash contact  
Manufacturer : Vitoject® (KCL 890 / Aldrich Z677698, 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](http://www.kcl.de)).

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 type ABEK

The entrepreneur 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.

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face af-

ter working with substance.

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**SECTION 9: Physical and chemical properties**

|                                                     |                                                         |
|-----------------------------------------------------|---------------------------------------------------------|
| Appearance                                          | : liquid, clear                                         |
| Color                                               | : colourless                                            |
| Odor                                                | : amine-like                                            |
| Odor Threshold                                      | : No data available                                     |
| pH                                                  | : 11 (20 °C)<br>Concentration: 20 g/l                   |
| Melting point                                       | : < -70 °C                                              |
| Boiling point/boiling range                         | : 217 °C (1,013 hPa)<br>Method: lit.                    |
| Flash point                                         | : 93 °C<br>(1,013 hPa)<br>Method: DIN 51758, closed cup |
| Evaporation rate                                    | : No data available                                     |
| Flammability (solid, gas)                           | : No data available                                     |
| Flammability (liquids)                              | : No data available                                     |
| Burning rate                                        | : No data available                                     |
| Self-ignition                                       | : 270 °C<br>1,009.3 - 1,010.7 hPa                       |
| Upper explosion limit /<br>Upper flammability limit | : Upper explosion limit<br>4.5 %(V)                     |
| Lower explosion limit /<br>Lower flammability limit | : Lower explosion limit<br>0.8 %(V)                     |
| Vapor pressure                                      | : No data available                                     |
| Relative vapour density                             | : 7.64<br>(Air = 1.0)                                   |
| Relative density                                    | : No data available                                     |
| Density                                             | : 0.946 g/cm <sup>3</sup> (25 °C)                       |

Method: lit.

|                                        |                                                                                                   |
|----------------------------------------|---------------------------------------------------------------------------------------------------|
| Solubility(ies)                        |                                                                                                   |
| Water solubility                       | : (decomposition) (20 °C)                                                                         |
| Partition coefficient: n-octanol/water | : log Pow: 0.31<br>Method: (calculated)<br>Bioaccumulation is not expected. (Lit.)                |
| Autoignition temperature               | : 270 °C (1,009.3 - 1,010.7 hPa)<br>Method: Regulation (EC) No. 440/2008, Annex, A.15<br>GLP: yes |
| Decomposition temperature              | : > 217 °C                                                                                        |
| Viscosity                              |                                                                                                   |
| Viscosity, dynamic                     | : 2 mPa.s ( 20 °C)                                                                                |
| Viscosity, kinematic                   | : No data available                                                                               |
| Flow time                              | : No data available                                                                               |
| Explosive properties                   | : Not classified as explosive.                                                                    |
| Oxidizing properties                   | : none                                                                                            |
| Molecular weight                       | : 221.37 g/mol                                                                                    |
| Particle characteristics               |                                                                                                   |
| Particle size                          | : No data available                                                                               |

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## SECTION 10: Stability and reactivity

|                                    |                                                                                                                                                 |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | : Forms explosive mixtures with air on intense heating.<br><br>A range from approx. 15 Kelvin below the flash point is to be rated as critical. |
| Chemical stability                 | : The product is chemically stable under standard ambient conditions (room temperature) .                                                       |
| Possibility of hazardous reactions | : May decompose on exposure to moist air or water.<br>Violent reactions possible with:                                                          |
| Conditions to avoid                | : Strong heating.                                                                                                                               |
| Incompatible materials             | : No data available                                                                                                                             |
| Hazardous decomposition products   | : In the event of fire: see section 5                                                                                                           |



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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1,780 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male - 6 h - > 5 ppm - vapour

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - 4,290 mg/kg

Remarks: (RTECS)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive after 3 minutes to 1 hour of exposure - 1 h

(OECD Test Guideline 404)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irreversible effects on the eye

(OECD Test Guideline 405)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Remarks: Causes serious eye damage.

#### Respiratory or skin sensitization

Buehler Test - Guinea pig

Result: positive

(OECD Test Guideline 406)

#### Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: Micronucleus test

Species: Mouse

Cell type: Red blood cells (erythrocytes)  
Application Route: Intraperitoneal  
Method: OECD Test Guideline 474  
Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

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 - 90 d - No observed adverse effect level - 200 mg/kg - Lowest observed adverse effect level - 600 mg/kg  
Remarks: Subchronic toxicity

Repeated dose toxicity - Rabbit - male and female - Dermal - 11 Days - No observed adverse effect level - 84 mg/kg

RTECS: TX2100000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

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## SECTION 12: Ecological information

### Ecotoxicity

#### Components:

#### **Triethoxy(3-aminopropyl)silane:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 934 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: semi-static test  
Analytical monitoring: yes  
Method: OECD Test Guideline 203  
GLP: yes

|                                                     |                                                                                                                                                                                                          |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 331 mg/l<br>End point: Immobilization<br>Exposure time: 48 h<br>Test Type: static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 202<br>GLP: yes |
| Toxicity to algae/aquatic plants                    | : ErC50 (Desmodesmus subspicatus (green algae)): > 1,000 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Analytical monitoring: yes<br>Method: Directive 67/548/EEC, Annex V, C.3.<br>GLP: yes  |
| Toxicity to microorganisms                          | : EC50 (Pseudomonas putida): 43 mg/l<br>Exposure time: 5.75 h<br>Test Type: static test<br>GLP: yes<br>Remarks: (ECHA)                                                                                   |

## **Persistence and degradability**

### **Components:**

#### **Triethoxy(3-aminopropyl)silane:**

|                  |                                                                                                                                                                                 |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Biodegradability | : aerobic<br>Inoculum: activated sludge<br>Result: Not biodegradable<br>Biodegradation: 67 %<br>Exposure time: 28 d<br>Method: Directive 67/548/EEC Annex V, C.4.A.<br>GLP: yes |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## **Bioaccumulative potential**

### **Components:**

#### **Triethoxy(3-aminopropyl)silane:**

|                                        |                                                                                                                                                                            |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bioaccumulation                        | : Species: Cyprinus carpio (Carp)<br>Bioconcentration factor (BCF): 3.4<br>Exposure time: 8 Weeks<br>Concentration: 5 mg/l<br>Method: OECD Test Guideline 305C<br>GLP: yes |
| Partition coefficient: n-octanol/water | : log Pow: 0.31<br>Method: (calculated)<br>Remarks: Bioaccumulation is not expected. (Lit.)                                                                                |

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 13: Disposal information****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.

According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

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**SECTION 14: Transport information****International Regulations****IATA-DGR**

UN/ID No. : UN 2735  
Proper shipping name : Amines, liquid, corrosive, n.o.s.  
(Triethoxy(3-aminopropyl)silane)  
Class : 8  
Packing group : II  
Labels : Class 8 - Corrosive substances  
Packing instruction (cargo aircraft) : 855  
Packing instruction (passenger aircraft) : 851

**IMDG-Code**

UN number : UN 2735  
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.  
(Triethoxy(3-aminopropyl)silane)  
Class : 8  
Packing group : II  
Labels : 8  
EmS Code : F-A, S-B  
Marine pollutant : no

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

Not applicable for product as supplied.

### 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.

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## SECTION 15: Regulatory information

### Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

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## SECTION 16: Other information

Revision Date : 14.08.2025

### Further information

Other information : The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.  
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Date format : dd.mm.yyyy

### Full text of other abbreviations

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 x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised 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 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; 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 - 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; 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; 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; WHMIS - Workplace Hazardous Materials Information System

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