

# SAFETY DATA SHEET

Version 6.15 Revision Date 12/08/2025 Print Date 12/09/2025

#### **SECTION 1. IDENTIFICATION**

#### 1.1 Product identifiers

Product name : (S)-(-)-N-(Trifluoroacetyl)pyrrolidine-2-

carbonyl chlorid e solution

Product Number : 248509 Brand : Aldrich

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : After February 3, 2025, this chemical substance (as defined in

TSCA section 3(2))/product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of methylene chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or

Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or

mixture will be used inside a manufacturing process, and the solvent (methylene chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space

vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.

The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to

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comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

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

: Sigma-Aldrich Inc. Company

3050 SPRUCE ST ST. LOUIS MO 63103

UNITED STATES

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

## **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

: Category 4 Acute toxicity (Oral)

Skin irritation : Category 2

Eve irritation : Category 2A

Carcinogenicity : Category 2

Specific target organ

toxicity - single exposure

: Category 3 (Central nervous system)

Short-term (acute)

aquatic hazard

: Category 2

Long-term (chronic)

aquatic hazard

: Category 2

#### Other hazards

None known.

## **GHS label elements**

Hazard pictograms







Signal word Warning

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Hazard statements : H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements :

# Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have

been read and understood.

P261 Avoid breathing mist or vapours.

P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this

product.

P271 Use only outdoors or in a well-ventilated area.

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.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

## Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

#### Disposal:

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



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

Substance / Mixture : Mixture

CAS-No. : Not Assigned

## **Components**

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Dichloromethane	75-09-2*	>= 80 - <= 100	TSC
(S)-(-)-N- (Trifluoroacetyl)prolyl chloride	36724-68-2*	>= 1 - <= 5	TSC

<sup>\*</sup> Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

## **SECTION 4. FIRST AID MEASURES**

General advice : 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.

Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water.

Call in ophthalmologist. Remove contact lenses.

If swallowed : After swallowing: immediately make victim drink

water (two glasses at most).

Consult a physician.

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

: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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Unsuitable extinguishing

media

: For this substance/mixture no limitations of

extinguishing agents are given.

Specific hazards during

fire fighting

: Not combustible.

Ambient fire may liberate hazardous vapours.

Hazardous combustion

products

: Carbon oxides

Nitrogen oxides (NOx)

Hydrogen chloride gas

Hydrogen fluoride

Specific extinguishing

methods

: No data available

Further information : Suppress (knock down) gases/vapours/mists with a

water spray jet.

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: Do not breathe vapours, aerosols.

Avoid substance contact. Ensure adequate ventilation.

Evacuate the danger area, observe emergency

procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental : Do not let product enter drains.

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## precautions

Methods and materials for containment and cleaning up

: Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7

and 10).

Take up 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 safe handling : Work under hood. Do not inhale substance/mixture.

Avoid generation of vapours/aerosols.

Further information on

: Tightly closed.

storage conditions

Keep in a well-ventilated place.

Keep locked up or in an area accessible only to

qualified or authorised persons.

: 6.1D, Non-combustible, acute toxic Cat.3 / toxic Storage class

hazardous materials or hazardous materials causing

chronic effects

Recommended storage

temperature

: 36 - 46 °F / 2 - 8 °C

Further information on

storage stability

: Moisture 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
Dichloromethane	75-09-2	TWA	50 ppm	ACGIH
		PEL	25 ppm	OSHA CARC
		STEL	125 ppm	OSHA CARC
		ECEL-TWA	2 ppm 8 mg/m3	TSCA ECEL
		EPA STEL	16 ppm 57 mg/m3	TSCA ECEL

## **Biological occupational exposure limits**

Components	CAS-No.	Control parameter s	Biological specimen	Samplin g time	Permissibl e concentrat ion	Basis
Dichloromethane	75-09-2	Dichlorom ethane	Urine	End of shift (As soon as possible after exposur e ceases)	0.3 mg/l	ACGIH BEI

**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 type ABEK

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

Remarks : required

Eye protection : Use equipment for eye protection tested and

approved under appropriate government standards

such as NIOSH (US) or EN 166(EU).

Safety glasses

Skin and body protection : protective clothing

Hygiene measures : Immediately change contaminated clothing. Apply

preventive skin protection. Wash hands and face

after working with substance.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Color : No data available

Odor : No data available

Odor Threshold : No data available

Ηg : No data available

: No data available Melting point

Boiling point/boiling range : No data available

: No data available Flash point

Evaporation rate : No data available

: No data available Flammability (solid, gas)

Flammability (liquids) : The product is not flammable.

: No data available Burning rate

Self-ignition Not applicable

Upper explosion limit / Upper flammability limit Not applicable

Lower explosion limit / Lower flammability limit : Not applicable

: No data available Vapor pressure

Relative vapour density : No data available

Relative density : No data available

: 1.000 g/cm3 Density

: No data available Water solubility

Partition coefficient: n-

octanol/water

: No data available

Autoignition temperature : Not applicable

: No data available Decomposition

temperature



Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Flow time : No data available

Explosive properties : Not classified as explosive.

Oxidizing properties : none

Molecular weight : 229.58 g/mol

Particle characteristics

Particle size : No data available

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No data available

Chemical stability : The product is chemically stable under standard

ambient conditions (room temperature) .

Possibility of hazardous

reactions

: No data available

Conditions to avoid : no information available

Incompatible materials : Bases

Alkali metals

Strong acids and strong bases

Strong oxidizing agents

Amines

Vinyl compounds

Aluminum Magnesium

products

Hazardous decomposition: In the event of fire: see section 5

## **SECTION 11. TOXICOLOGICAL INFORMATION**

# 11.1 Information on toxicological effects

## **Mixture**

## **Acute toxicity**

Oral: No data available

Acute toxicity estimate Oral - 1,776 mg/kg

(Calculation method)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and

gastrointestinal tract.

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Symptoms: Possible symptoms:, mucosal irritations Acute toxicity estimate Dermal - 2,543 mg/kg

(Calculation method)

Skin corrosion/irritation

Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye irritation.

## Respiratory or skin sensitization

No data available

## Germ cell mutagenicity

No data available

## Carcinogenicity

Evidence of a carcinogenic effect.

IARC: 2A - Group 2A: Probably carcinogenic to humans (Dichloromethane)

NTP: RAHC - Reasonably anticipated to be a human carcinogen (Dichloromethane)

OSHA: OSHA specifically regulated carcinogen (Dichloromethane)

## **Reproductive toxicity**

No data available

## Specific target organ toxicity - single exposure

Mixture may cause drowsiness or dizziness.

## Specific target organ toxicity - repeated exposure

No data available

## **Aspiration hazard**

No data available

#### 11.2 Additional Information

Dichloromethane is metabolized in the body producing carbon monoxide which increases and sustains carboxyhemoglobin levels in the blood, reducing the oxygen-carrying capacity of the blood.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

# Components

## **Dichloromethane**

## Acute toxicity

LD50 Oral - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Mouse - 4 h - 86 mg/l - vapour

Remarks: (ECHA)



Symptoms: Possible damages:, mucosal irritations LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

## Skin corrosion/irritation

Skin - Rabbit

Result: Irritations - 4 h (OECD Test Guideline 404)

Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis,

due to degreasing properties of the product.

## Serious eye damage/eye irritation

Eyes - Rabbit Result: Eye irritation Remarks: (ECHA)

Remarks: Risk of corneal clouding.

# Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

# Germ cell mutagenicity

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

Test system: Chinese hamster ovary cells

Result: positive Test Type: Ames test

Test system: Salmonella typhimurium

Result: positive

Method: OECD Test Guideline 474

Species: Mouse - male and female - Bone marrow

Result: negative

## Carcinogenicity

Suspected of causing cancer.

## Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

Inhalation - May cause drowsiness or dizziness. - Central nervous system Acute inhalation toxicity - Possible damages:, mucosal irritations

## Specific target organ toxicity - repeated exposure

## **Aspiration hazard**

No data available

## (S)-(-)-N-(Trifluoroacetyl)prolyl chloride

#### **Acute toxicity**

Oral: No data available LD50 Oral - 100 mg/kg Inhalation: No data available Dermal: No data available

No data available



**Skin corrosion/irritation** Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

**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

#### **SECTION 12. ECOLOGICAL INFORMATION**

## **Ecotoxicity**

# **Components:**

#### **Dichloromethane:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)):

193.00 mg/l

End point: mortality Exposure time: 96 h

Test Type: flow-through test Analytical monitoring: yes

Remarks: (ECHA)

Toxicity to daphnia and

other aquatic invertebrates

: LC50 (Daphnia magna (Water flea)): 27 mg/l

End point: mortality Exposure time: 48 h Test Type: static test Method: US-EPA

Toxicity to fish (Chronic

toxicity)

: LC50 (Pimephales promelas (fathead minnow)): 471

mg/l

End point: mortality Exposure time: 8 d

Test Type: flow-through test Analytical monitoring: yes

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Remarks: (ECHA)

Toxicity to : EC50 (activated sludge): 2,590 mg/l

microorganisms Exposure time: 40 min
Test Type: static test
Analytical monitoring: yes

Method: OECD Test Guideline 209

# (S)-(-)-N-(Trifluoroacetyl)prolyl chloride:

Toxicity to fish : Remarks: No data available

LC50 (Pimephales promelas (fathead minnow)): 0.024

mg/l

Exposure time: 96.0 h

Remarks: The preceding data, or interpretation of data, was determined using Quantitative Structure

Activity Relationship (QSAR) modeling.

LC50: 0.1 mg/l Exposure time: 96.0 h

## Persistence and degradability

#### **Components:**

#### Dichloromethane:

Biodegradability : aerobic

Inoculum: activated sludge, non-adapted

Concentration: 5 mg/l

Result: Readily biodegradable.

Biodegradation: 68 % Exposure time: 28 d

Method: OECD Test Guideline 301D

GLP: yes

## (S)-(-)-N-(Trifluoroacetyl)prolyl chloride:

Biodegradability : Remarks: No data available

#### **Bioaccumulative potential**

#### Components:

## Dichloromethane:

Bioaccumulation : Species: Cyprinus carpio (Carp)

Bioconcentration factor (BCF): 2 - 5.4

Exposure time: 6 Weeks Concentration: 250 µg/l

Method: OECD Test Guideline 305

GLP: yes

Species: Cyprinus carpio (Carp)

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Bioconcentration factor (BCF): 6 - 40

Exposure time: 6 Weeks Concentration:  $25 \mu g/l$ 

Method: OECD Test Guideline 305

GLP: yes

Partition coefficient: n-

: log Pow: 1.25 (68 °F / 20 °C)

octanol/water

pH: 7

Method: (experimental)

Remarks: Bioaccumulation is not expected.

# (S)-(-)-N-(Trifluoroacetyl)prolyl chloride:

Bioaccumulation : Remarks: No data available

# Mobility in soil

## **Components:**

## (S)-(-)-N-(Trifluoroacetyl)prolyl chloride:

Stability in soil : Remarks: No data available

#### Other adverse effects

## **Components:**

#### Dichloromethane:

Results of PBT and vPvB

assessment

: Not persistent, bioaccumulative, and toxic (PBT). Not

very persistent and very bioaccumulative (vPvB).

: Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex

XIII.

## **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 1593

Proper shipping name : Dichloromethane solution

Class : 6.1

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Packing group : III

Labels : Division 6.1 - Toxic substances

Packing instruction (cargo: 663

aircraft)

Packing instruction : 655

(passenger aircraft)

IMDG-Code

UN number : UN 1593

Proper shipping name : DICHLOROMETHANE SOLUTION

Class : 6.1
Packing group : III
Labels : 6.1
EmS Code : F-A, S-A
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 1593

Proper shipping name : Dichloromethane SOLUTION

Class : 6.1 Packing group : III

Labels : Division 6.1 - Toxic substances

ERG Code : 160 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**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Dichloromethane	75-09-2	1000	1017

## **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.

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SARA 311/312 Hazards : Acute Health Hazard Chronic Health Hazard

**SARA 313** 

: The following components are subject to reporting levels established by SARA Title III, Section 313:

Dichlorometha 75-09-2 >= 90 - <= 100 %

ne

## **US State Regulations**

# **Massachusetts Right To Know**

Dichloromethane 75-09-2

Pennsylvania Right To Know

Dichloromethane 75-09-2

**Maine Chemicals of High Concern** 

Product does not contain any listed chemicals

**Vermont Chemicals of High Concern** 

Dichloromethane 75-09-2

**Washington Chemicals of High Concern** 

Dichloromethane 75-09-2

## California Prop. 65

WARNING: This product can expose you to chemicals including Dichloromethane, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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

TSCA : Product contains substance(s) not listed on TSCA

inventory.

#### **TSCA list**

No substances are subject to a Significant New Use Rule.

After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of methylene chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (methylene chloride) will be reclaimed; (11)



Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements: Dichloromethane 75-09-2

#### **SECTION 16. OTHER INFORMATION**

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

OSHA CARC : OSHA Specifically Regulated Chemicals/Carcinogens

TSCA ECEL : TSCA Existing Chemical Exposure Limit

ACGIH / TWA : 8-hour, time-weighted average OSHA CARC / PEL : Permissible exposure limit (PEL)

OSHA CARC / STEL : Excursion limit

TSCA ECEL / ECEL-TWA : Existing Chemical Exposure List (TWA)

TSCA ECEL / EPA STEL : EPA STEL

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; - 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,

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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 : 12/08/2025

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