

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 8.4  
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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : N-Nitrosodiethylamine (NDEA)

Product Number : 1466652

Brand : US Pharmacopeia

REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

### 1.3

CHEMIKART

### 1.4 Emergency telephone

Emergency Phone # : 000 800 1007 141 (CHEMTREC)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 3), H311

Carcinogenicity (Category 1B), H350

Specific target organ toxicity - single exposure (Category 1), Eyes, Central nervous system, H370

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 Label elements

### Labelling according Regulation (EC) No 1272/2008

Pictogram

|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| Signal Word                    | Danger                                                                                                   |
| Hazard Statements              |                                                                                                          |
| H225                           | Highly flammable liquid and vapor.                                                                       |
| H301 + H311 + H331             | Toxic if swallowed, in contact with skin or if inhaled.                                                  |
| H350                           | May cause cancer.                                                                                        |
| H370                           | Causes damage to organs (Eyes, Central nervous system).                                                  |
| Precautionary Statements       |                                                                                                          |
| P201                           | Obtain special instructions before use.                                                                  |
| P210                           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.           |
| P280                           | Wear protective gloves/ protective clothing/ eye protection/ face protection.                            |
| P301 + P310                    | IF SWALLOWED: Immediately call a POISON CENTER/ doctor.                                                  |
| P303 + P361 + P353             | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.             |
| P304 + P340 + P311             | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor. |
| Supplemental Hazard Statements | none                                                                                                     |

### Reduced Labeling (<= 125 ml)

Pictogram

|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| Signal Word                    | Danger                                                                                                   |
| Hazard Statements              |                                                                                                          |
| H350                           | May cause cancer.                                                                                        |
| H370                           | Causes damage to organs.                                                                                 |
| H301 + H311 + H331             | Toxic if swallowed, in contact with skin or if inhaled.                                                  |
| Precautionary Statements       |                                                                                                          |
| P201                           | Obtain special instructions before use.                                                                  |
| P280                           | Wear protective gloves/ protective clothing/ eye protection/ face protection.                            |
| P301 + P310                    | IF SWALLOWED: Immediately call a POISON CENTER/ doctor.                                                  |
| P304 + P340 + P311             | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor. |
| Supplemental Hazard Statements | none                                                                                                     |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

| Component                  |                       | Classification                                                                                                                                                     | Concentration     |
|----------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| <b>Methanol</b>            |                       |                                                                                                                                                                    |                   |
| CAS-No.                    | 67-56-1               | Flam. Liq. 2; Acute Tox. 3;<br>STOT SE 1; H225, H301,<br>H331, H311, H370<br>Concentration limits:<br>>= 10 %: STOT SE 1,<br>H370; 3 - < 10 %: STOT<br>SE 2, H371; | >= 90 - <= 100 %  |
| EC-No.                     | 200-659-6             |                                                                                                                                                                    |                   |
| Index-No.                  | 603-001-00-X          |                                                                                                                                                                    |                   |
| Registration number        | 01-2119433307-44-XXXX |                                                                                                                                                                    |                   |
|                            |                       |                                                                                                                                                                    |                   |
| <b>Diethylnitrosoamine</b> |                       |                                                                                                                                                                    |                   |
| CAS-No.                    | 55-18-5               | Acute Tox. 3; Carc. 1B;<br>Aquatic Chronic 3; H301,<br>H350, H412                                                                                                  | >= 0,1 - < 0,25 % |
| EC-No.                     | 200-226-1             |                                                                                                                                                                    |                   |
|                            | *                     |                                                                                                                                                                    |                   |

\*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

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

**If inhaled**

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

**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. Call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).

**4.2 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

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Mixture with combustible ingredients.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

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

Forms explosive mixtures with air at ambient temperatures.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3 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 carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

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

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

**Storage stability** Recommended storage temperature  
-20 °C

#### Storage class

Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

### 8.2 Exposure controls

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

required

##### Body Protection

Flame retardant antistatic protective clothing.

##### 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.

##### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |                                                 |                   |
|-------------------------------------------------|-------------------|
| a) Physical state                               | liquid            |
| b) Color                                        | No data available |
| c) Odor                                         | No data available |
| d) Melting point/freezing point                 | No data available |
| e) Initial boiling point and boiling range      | No data available |
| f) Flammability (solid, gas)                    | No data available |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point                                  | 9,7 °C            |

- |                                           |                                                                                  |
|-------------------------------------------|----------------------------------------------------------------------------------|
| i) Autoignition temperature               | No data available                                                                |
| j) Decomposition temperature              | No data available                                                                |
| k) pH                                     | No data available                                                                |
| l) Viscosity                              | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) Water solubility                       | No data available                                                                |
| n) Partition coefficient: n-octanol/water | No data available                                                                |
| o) Vapor pressure                         | No data available                                                                |
| p) Density                                | No data available                                                                |
| Relative density                          | No data available                                                                |
| q) Relative vapor density                 | No data available                                                                |
| r) Particle characteristics               | No data available                                                                |
|                                           |                                                                                  |
| s) Explosive properties                   | Not classified as explosive.                                                     |
| t) Oxidizing properties                   | none                                                                             |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapors may form explosive mixture with air.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Warming.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 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

#### Mixture

##### Acute toxicity

Acute toxicity estimate Oral - 100,15 mg/kg

(Calculation method)

Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l - vapor (Calculation method)

Acute toxicity estimate Dermal - 300,4 mg/kg

(Calculation method)

##### Skin corrosion/irritation

No data available

##### Serious eye damage/eye irritation

No data available

##### Respiratory or skin sensitization

No data available

##### Germ cell mutagenicity

No data available

##### Carcinogenicity

Possible carcinogen.

##### Reproductive toxicity

No data available

##### Specific target organ toxicity - single exposure

Mixture causes damage to organs. - Eyes, Central nervous system

##### Specific target organ toxicity - repeated exposure

No data available

##### Aspiration hazard

No data available

### 11.2 Additional Information

#### Endocrine disrupting properties

##### Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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.



## Components

### Methanol

#### Acute toxicity

Acute toxicity estimate Oral - 100,1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Nausea, Vomiting

Acute toxicity estimate Inhalation - 4 h - 3,1 mg/l - vapor

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Symptoms: Irritation symptoms in the respiratory tract.

Acute toxicity estimate Dermal - 300,1 mg/kg

(Expert judgment)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

Remarks: (ECHA)

Remarks: Drying-out effect resulting in rough and chapped skin.

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Remarks: (ECHA)

#### Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative

(OECD Test Guideline 406)

#### Germ cell mutagenicity

Based on available data the classification criteria are not met.

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Result: negative

Method: OECD Test Guideline 474

Species: Mouse - male and female - Bone marrow

Result: negative

#### Carcinogenicity

Did not show carcinogenic effects in animal experiments.

#### Reproductive toxicity

Based on available data the classification criteria are not met.

#### Specific target organ toxicity - single exposure

Causes damage to organs. - Eyes, Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute oral toxicity - Nausea, Vomiting

Acute inhalation toxicity - Irritation symptoms in the respiratory tract.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Diethylnitrosoamine**

**Acute toxicity**

LD50 Oral - Rat - 220 mg/kg

Remarks: Diarrhea

Liver: Fatty liver degeneration.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.  
(RTECS)

Acute toxicity estimate Oral - 220 mg/kg  
(ATE value derived from LD50/LC50 value)

Inhalation: No data available

Dermal: No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

Presumed to have carcinogenic potential for humans

**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

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Mixture**

No data available

## 12.2 Persistence and degradability

No data available

## 12.3 Bioaccumulative potential

No data available

## 12.4 Mobility in soil

No data available

## 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Endocrine disrupting properties

### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

No data available

### Components

#### Methanol

|                                                     |                                                                                                                               |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | flow-through test LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 15.400,0 mg/l - 96 h (US-EPA)                                |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 18.260 mg/l - 96 h (OECD Test Guideline 202)                      |
| Toxicity to algae                                   | static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - ca. 22.000,0 mg/l - 96 h (OECD Test Guideline 201) |
| Toxicity to bacteria                                | static test IC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)                                            |
| Toxicity to fish(Chronic toxicity)                  | NOEC - <i>Oryzias latipes</i> (Orange-red killifish) - 7.900 mg/l - 200 h<br>Remarks: (External MSDS)                         |

#### Diethylnitrosoamine

|                   |                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------|
| Toxicity to fish  | LC50 - <i>Pimephales promelas</i> (fathead minnow) - 775 mg/l - 96 h<br>Remarks: (ECOTOX Database)           |
| Toxicity to algae | EC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - 10,2 mg/l - 96 h<br>Remarks: (ECOTOX Database) |

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1230

IMDG: 1230

IATA: 1230

### 14.2 UN proper shipping name

ADR/RID: METHANOL, SOLUTION

IMDG: METHANOL, SOLUTION

IATA: Methanol, SOLUTION

### 14.3 Transport hazard class(es)

ADR/RID: 3 (6.1)

IMDG: 3 (6.1)

IATA: 3 (6.1)

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

Tunnel restriction code : (D/E)

Further information : No data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Methanol

#### National legislation

Seveso III: Directive 2012/18/EU of the H2 ACUTE TOXIC

European Parliament and of the Council  
on the control of major-accident hazards  
involving dangerous substances.

P5c FLAMMABLE LIQUIDS

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### Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

|                    |                                                         |
|--------------------|---------------------------------------------------------|
| H225               | Highly flammable liquid and vapor.                      |
| H301               | Toxic if swallowed.                                     |
| H301 + H311 + H331 | Toxic if swallowed, in contact with skin or if inhaled. |
| H311               | Toxic in contact with skin.                             |
| H331               | Highly flammable liquid and vapor.                      |
| H350               | Toxic if swallowed, in contact with skin or if inhaled. |
| H370               | Causes damage to organs (Eyes, Central nervous system). |
| H371               | Toxic if inhaled.                                       |
| H412               | May cause cancer.                                       |

## Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; 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

### Classification of the mixture

|             |      |
|-------------|------|
| Flam. Liq.2 | H225 |
| Acute Tox.3 | H301 |
| Acute Tox.3 | H331 |
| Acute Tox.3 | H311 |
| Carc.1B     | H350 |
| STOT SE1    | H370 |

### Classification procedure:

|                                     |
|-------------------------------------|
| Based on product data or assessment |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |
| Calculation method                  |

### Further 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

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