SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

Version 7.9
Revision Date 24.12.2025
Print Date 29.07.2026

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 : 1,2-Dimethoxyethane

Product Number : 259527
Brand : Sigma-Aldrich
Index-No. : 603-031-00-3
REACH No. : 01-2119485981-24-XXXX
CAS-No. : 110-71-4

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

Identified uses : Laboratory chemicals, Processing aid, Solvent, Intermediate, For industrial use only.
Uses advised against : This product is not intended for consumer use.

1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science S.A.S
80 Rue de Luzais
F-38297 SAINT QUENTIN FALLAVIER CEDEX

Telephone : +33 (0)1 85 16 94 34
E-mail address : servicetechnique@merckgroup.com

1.4 Emergency telephone number

Emergency Phone # : +33 (0)9 75 18 14 07 (CHEMTREC)
+33 (0)1 45 42 59 59 (I.N.R.S.)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Reproductive toxicity, Category 1B	H360FD: May damage fertility. May damage

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the unborn child.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.

Supplemental Hazard Statements : EUH019 May form explosive peroxides.

Precautionary statements :

Prevention:

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Additional Labelling

Restricted to professional users.

Reduced Labelling (<= 125 ml)

Hazard pictograms :



Signal word Danger

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Hazard Statements

H360FD	May damage fertility. May damage the unborn child.

Precautionary Statements

P202	Do not handle until all safety precautions have been read and understood.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard information (EU)

EUH019	May form explosive peroxides.

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

3.1 Substances

Substance name : Monoglyme

Index-No. : 603-031-00-3

EC-No. : 203-794-9

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
1,2-dimethoxy-ethane	110-71-4 203-794-9	>= 90 - <= 100	Acute toxicity estimate Acute inhalation toxicity (vapour): 11,1 mg/l

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Show this safety data sheet to the doctor in attendance.

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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. 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.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water Foam Carbon dioxide (CO2) 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

Specific hazards during fire fighting	:	Combustible. Pay attention to flashback. Vapours 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.
Hazardous combustion products	:	Carbon oxides

5.3 Advice for firefighters

Special protective equipment for fire-	:	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe

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fighters		distance or by wearing suitable protective clothing.
Further information	:	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Advice for non-emergency personnel: Do not breathe vapours, 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

Environmental precautions	:	Do not let product enter drains. Risk of explosion.

6.3 Methods and material for containment and cleaning up

Methods for 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 considerations see section 13.

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.

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7.2 Conditions for safe storage, including any incompatibilities

Further information on 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 authorised persons.
Storage class (TRGS 510)	:	3, Flammable liquids
Further information on storage stability	:	Test for peroxide formation periodically and before distillation.
Packaging material	:	Suitable material: Mild Steel Drum

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

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
Hand protection		
Material	:	Viton®
Break through time	:	480 min
Glove thickness	:	0,7 mm
Protective index	:	Full contact
Manufacturer	:	Vitoject® (KCL 890 / Aldrich Z677698, Size M)
Material	:	Nitrile rubber
Break through time	:	10 min
Glove thickness	:	0,4 mm
Protective index	:	Splash contact
Manufacturer	:	Camatril® (KCL 730 / Aldrich Z677442, Size M)
Remarks	:	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Skin and body protection	:	Flame retardant antistatic protective clothing.

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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.

Environmental exposure controls

Advice	:	Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid (20 °C, 1.013 hPa)
Color	:	colourless
Odor	:	ether-like
Odor Threshold	:	not determined
Melting point/ range	:	-58 °C Method: lit.
Boiling point/boiling range	:	85 °C Method: lit.
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	Upper flammability limit 10,4 %(V)
Lower explosion limit / Lower flammability limit	:	Lower flammability limit 1,6 %(V)
Flash point	:	5 °C Method: closed cup
Autoignition temperature	:	205 °C (1.008 hPa)

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		Method: Regulation (EC) No. 440/2008, Annex, A.15 GLP: yes
Decomposition temperature	:	No data available
pH	:	ca. 7 neutral
Viscosity		
Viscosity, dynamic	:	0,42 mPa.s (20 °C) Method: OECD Test Guideline 114
Viscosity, kinematic	:	0,48 mm2/s (20 °C) Method: OECD Test Guideline 114
Flow time	:	No data available
Solubility(ies)		
Water solubility	:	1.000 g/l (25 °C) soluble
Partition coefficient: n-octanol/water	:	log Pow: -0,21 (25 °C) Method: (experimental) Bioaccumulation is not expected.
Vapor pressure	:	87 hPa (25 °C) Method: OECD Test Guideline 104 GLP: yes
Relative density	:	0,87 (20 °C) Method: OECD Test Guideline 109
Density	:	0,867 g/cm3 (25 °C) Method: lit.
Relative vapour density	:	3,11 (Air = 1.0)

9.2 Other information

Explosives	:	Method: Explosive properties GLP: yes Not classified as explosive.
Oxidizing properties	:	none
Burning rate	:	No data available
Evaporation rate	:	No data available

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Surface tension	:	70,7 mN/m, 1 g/l, 23 °C, OECD Test Guideline 115
Molecular weight	:	90,12 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

Formation of peroxides possible.
Vapours 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

Hazardous reactions	:	Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid	:	Warming. Moisture.

10.5 Incompatible materials

Materials to avoid	:	Oxidizing agents Strong acids Strong oxidizing agents

10.6 Hazardous decomposition products

Peroxides
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - female - 5.370 mg/kg
(OECD Test Guideline 401)
Acute toxicity estimate Inhalation - 11,1 mg/l - vapour

(Expert judgement)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)
LD50 Dermal - Rat - female - > 5.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Irritating to skin. - 24 h

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(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation - 24 h
(OECD Test Guideline 405)

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)
Remarks: The value is given in analogy to the following substances: 1-ethoxy-2-(2-methoxyethoxy)ethane

Germ cell mutagenicity
Not mutagenic in Ames Test Did not show mutagenic effects in animal experiments.
Test Type: unscheduled DNA synthesis assay
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 482
Result: negative
Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Test Type: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479
Result: positive

Test Type: In vivo micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Test Type: Chromosome aberration test
Species: Chinese hamster
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 475
Result: negative

Carcinogenicity
No data available

Reproductive toxicity
May damage the unborn child.
May damage fertility.

Specific target organ toxicity - single exposure
No data available

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Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No aspiration toxicity classification

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.

RTECS: KI1451000
narcosis, Exposure to and/or consumption of alcohol may increase toxic effects.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Components:

1,2-dimethoxy-ethane:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 5.000 mg/l End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 203 GLP: yes Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: Tegdme
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.000 mg/l End point: Immobilization Exposure time: 48 h Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 9.120 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201

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GLP: yes

Toxicity to microorganisms	:	EC50 (activated sludge): > 6.400 mg/l Exposure time: 3 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 209 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 320 mg/l End point: reproduction rate Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: Diethyleneglycol dimethylether

12.2 Persistence and degradability

Components:

1,2-dimethoxy-ethane:

Biodegradability	:	Test Type: aerobic Inoculum: activated sludge Concentration: 95 mg/l Result: According to the results of tests of biodegradability this product is not readily biodegradable. Biodegradation: 16 % Exposure time: 48 d Method: OECD Test Guideline 302B GLP: yes
Chemical Oxygen Demand (COD)	:	1.700 mg/g Remarks: (External MSDS)

12.3 Bioaccumulative potential

Components:

1,2-dimethoxy-ethane:

Bioaccumulation	:	Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Partition coefficient: n-octanol/water	:	log Pow: -0,21 (25 °C) Method: (experimental) Remarks: Bioaccumulation is not expected.

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12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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.

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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

14.1 UN number or ID number

ADR : UN 2252

IMDG : UN 2252

IATA : UN 2252

14.2 UN proper shipping name

ADR : 1,2-DIMETHOXYETHANE

IMDG : 1,2-DIMETHOXYETHANE

IATA : 1,2-Dimethoxyethane

14.3 Transport hazard class(es)

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		Class	Subsidiary risks
ADR	:	3	
IMDG	:	3	
IATA	:	3	

14.4 Packing group

ADR

Packing group	:	II
Classification Code	:	F1
Hazard Identification Number	:	33
Labels	:	3
Tunnel restriction code	:	(D/E)

IMDG

Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft)	:	364
Packing instruction (LQ)	:	Y341
Packing group	:	II
Labels	:	Class 3 - Flammable liquids

IATA_P (Passenger)

Packing instruction (passenger aircraft)	:	353
Packing instruction (LQ)	:	Y341
Packing group	:	II
Labels	:	Class 3 - Flammable liquids

14.5 Environmental hazards

ADR

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 30: 1,2-dimethoxy-ethane Number on list 40 Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	1,2-dimethoxy-ethane
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE LIQUIDS

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

EUH019 : May form explosive peroxides.

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; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx -

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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 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; 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 - 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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 and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
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Annex: Exposure scenario

Identified uses:

Use: Drum and small package filling

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
ERC2: Formulation of preparations

Use: Formulation of preparations

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
PROC1: Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure **PROC3:** Use in closed batch process (synthesis or formulation)
ERC2: Formulation of preparations

Use: Industrial use of processing aids in processes and products, not becoming part of articles

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
PROC1: Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure **PROC3:** Use in closed batch process (synthesis or formulation)
ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Use: Used as chemical intermediate

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
PC19: Intermediate
PROC1: Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure **PROC3:** Use in closed batch process (synthesis or formulation)
ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Use: Used as laboratory reagent

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites

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SU 3, SU9, SU24: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals, Scientific research and development
PC21: Laboratory chemicals
PROC15: Use as laboratory reagent
ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

1. Short title of Exposure Scenario: Drum and small package filling

Main User Groups	: **SU 3**
Sectors of end-use	: **SU 3, SU9**
Process categories	: **PROC8b, PROC9**
Environmental Release Categories	: **ERC2:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC2

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC8b, PROC9

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Medium volatile liquid

Frequency and duration of use

Application duration	: 0,25 - 1 h
Frequency of use	: 220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor

Technical conditions and measures

Use only in area provided with appropriate exhaust ventilation., Good work practice required.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

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Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC8b	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,549 mg/kg BW/d	0,499
PROC8b	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,939 mg/m³	0,303
PROC9	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	1,127 mg/m³	0,363
PROC9	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,274 mg/kg BW/d	0,249

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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1. Short title of Exposure Scenario: Formulation of preparations

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Main User Groups : **SU 3**
Sectors of end-use : **SU 3, SU9**
Process categories : **PROC1, PROC2, PROC3**
Environmental Release Categories : **ERC2:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC2

Product characteristics

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Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid

Frequency and duration of use

Application duration : 0,25 - 1 h
Frequency of use : 220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

Use only in area provided with appropriate exhaust ventilation., Good work practice required.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC1	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,004 mg/kg BW/d	0,004
PROC1	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,023 mg/m³	0,007
PROC2	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,055 mg/kg BW/d	0,05
PROC2	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,376 mg/m³	0,121
PROC3	ECETOC TRA	With Local Exhaust	Dermal	0,027 mg/kg BW/d	0,025

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		Ventilation			
PROC3	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,751 mg/m³	0,242

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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1. Short title of Exposure Scenario: Industrial use of processing aids in processes and products, not becoming part of articles

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Main User Groups : **SU 3**
Sectors of end-use : **SU 3, SU9**
Process categories : **PROC1, PROC2, PROC3**
Environmental Release Categories : **ERC4:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC4

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid

Frequency and duration of use
Application duration : 0,25 - 1 h
Frequency of use : 220 days/year

Other operational conditions affecting workers exposure
Outdoor / Indoor : Indoor

Technical conditions and measures
Use only in area provided with appropriate exhaust ventilation., Good work practice required.

Organisational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Use suitable eye protection and gloves., For personal protection see section 8.

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3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC1	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,023 mg/m³	0,007
PROC1	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,004 mg/kg BW/d	0,004
PROC2	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,376 mg/m³	0,121
PROC2	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,055 mg/kg BW/d	0,05
PROC3	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,751 mg/m³	0,242
PROC3	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,027 mg/kg BW/d	0,025

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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1. Short title of Exposure Scenario: Used as chemical intermediate

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Main User Groups : **SU 3**
Sectors of end-use : **SU 3, SU9**
Chemical product category : **PC19**
Process categories : **PROC1, PROC2, PROC3**
Environmental Release Categories : **ERC6a:**

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2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC6a

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PC19

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Medium volatile liquid

Frequency and duration of use

Application duration : 0,25 - 1 h

Frequency of use : 220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

Use only in area provided with appropriate exhaust ventilation., Good work practice required.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC1	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,004 mg/kg BW/d	0,004
PROC1	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,023 mg/m³	0,007
PROC2	ECETOC TRA	With Local	Dermal	0,055 mg/kg	0,05

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		Exhaust Ventilation		BW/d	
PROC2	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,376 mg/m³	0,121
PROC3	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,027 mg/kg BW/d	0,025
PROC3	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,751 mg/m³	0,242

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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1. Short title of Exposure Scenario: Used as laboratory reagent

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Main User Groups : **SU 3**
Sectors of end-use : **SU 3, SU9, SU24**
Chemical product category : **PC21**
Process categories : **PROC15**
Environmental Release Categories : **ERC4:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC4

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC15, PC21

Product characteristics
Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid

Frequency and duration of use
Application duration : 0,25 - 1 h
Frequency of use : 220 days/year

Other operational conditions affecting workers exposure
Outdoor / Indoor : Indoor

Technical conditions and measures
Use only in area provided with appropriate exhaust ventilation., Good work practice required.

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Organisational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC15	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0,014 mg/kg BW/d	0,012
PROC15	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	0,751 mg/m³	0,242

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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