



## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 082077

# CLERANE 180

Date of the previous version: 2016-09-21

Revision Date: 2017-01-03

Version 3

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
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### 1.1. Product identifier

<b>Product name</b>	<b>CLERANE 180</b>
<b>REACH Registration Name</b>	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics.
<b>REACH registration No</b>	01-2119457273-39
<b>Trade name</b>	-
<b>Substance/mixture</b>	Substance

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

<b>Identified uses</b>	Manufacture of substances, Distribution of substance, Formulation & (re)packing of substances and mixtures, Uses in Coatings, Use in Cleaning Agents, Laboratory activities.
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### 1.3. Details of the supplier of the safety data sheet

<b>Supplier</b>	TOTAL FLUIDES 24, cours Michelet. 92800 PUTEAUX. FRANCE Tel: +33 (0)1 41 35 40 00 Fax: +33 (0)1 41 35 82 88
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### For further information, please contact:

<b>Contact Point</b>	Service QSE : Tel : +33 (0)1 41 35 33 64 / Fax : +33 (0)1 41 35 33 50 Emergency number 24h/24h: +33 (0)1 41 35 65 00
<b>E-mail Address</b>	rmfs.fds@total.com

### 1.4. Emergency telephone number

Emergency telephone: +44 1235 239670  
 France - ORFILA (INRS) Tél : +33 (0)1 45 42 59 59  
 In France - Poison centers:  
 ANGERS : 02 41 48 21 21  
 BORDEAUX : 05 56 96 40 80  
 LILLE : 08 00 59 59 59  
 LYON : 04 72 11 69 11  
 MARSEILLE : 04 91 75 25 25  
 NANCY : 03 83 22 50 50  
 PARIS : 01 40 05 48 48  
 STRASBOURG : 03 88 37 37 37  
 TOULOUSE : 05 61 77 74 47

Section 2: HAZARDS IDENTIFICATION
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2.1. Classification of the substance or mixture**REGULATION (EC) No 1272/2008***For the full text of the H-Statements mentioned in this Section, see Section 2.2.***Classification**

Aspiration toxicity - Category 1 - (H304)

2.2. Label elements**Labelled according to** REGULATION (EC) No 1272/2008**EC-No** 918-481-9**Hazard pictograms****Signal Word**

DANGER

**Hazard Statements**

H304 - May be fatal if swallowed and enters airways

**Precautionary Statements**

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor

P331 - Do NOT induce vomiting

**Supplemental Hazard Statements**

EUH066 - Repeated exposure may cause skin dryness or cracking

2.3. Other hazards**Physical-Chemical Properties**

Vapors may form explosive mixtures with air. Vapours are heavier than air and may spread near ground level to sources of ignition .

**Properties Affecting Health**

Repeated exposure may cause skin dryness or cracking. Prolonged skin contact may defat the skin and produce dermatitis.

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substance



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**Chemical nature** A complex and variable combination of paraffinic and cyclic hydrocarbons having a carbon number range predominantly of C10 to C13 and boiling in the range of approximately 160°C to 245°C.

Chemical Name	EC-No	REACH registration No	CAS-No	Weight %	Classification (Reg. 1272/2008)
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	918-481-9	01-2119457273-39	^	100	Asp. Tox. 1 (H304)

**Additional information** The EC substance definition and related classification & labelling has been developed in the framework of the Regulation (EC) No 1907/2006 (REACH). For information about the related CAS number see section 15 of this MSDS.  
Total aromatic content : < 0.03%.

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

<b>General advice</b>	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
<b>Skin contact</b>	Remove contaminated clothing and shoes. Wash off with soap and water.
<b>Inhalation</b>	In case of exposure to intense concentrations of vapours, fumes or spray, transport the person away from the contaminated zone, keep warm and allow to rest.
<b>Ingestion</b>	Do not ingest. If swallowed then seek immediate medical assistance. Risk of product entering the lungs on vomiting after ingestion. In this case, the casualty should be sent immediately to hospital.
<b>Protection of First-aiders</b>	Use personal protective equipment.

## 4.2. Most important symptoms and effects, both acute and delayed

<b>Eye contact</b>	Contact with eyes may cause irritation.
<b>Skin contact</b>	Redness. Prolonged or repeated contact may dry skin and cause irritation.
<b>Inhalation</b>	The inhalation of vapours or aerosols may be irritating for the respiratory tract and for mucous membranes, Eye Irritation. Vapors inhaled in strong concentration have a narcotic effect on the central nervous system.
<b>Ingestion</b>	If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Abdominal pain.



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May cause central nervous system depression.

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

**Notes to physician** Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES
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5.1. Extinguishing media

**Suitable Extinguishing Media** Foam. Dry powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media** Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

**Special Hazard** Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

5.3. Advice for fire-fighters

**Special protective equipment for fire-fighters** Wear self-contained breathing apparatus and protective suit. In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Other information** Cool containers / tanks with water spray.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES
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6.1. Personal precautions, protective equipment and emergency procedures

**General Information** Use personal protective equipment.  
Evacuate non-essential personnel.  
Ensure adequate ventilation, especially in confined areas.  
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).  
Do not touch or walk through spilled material.

6.2. Environmental precautions

**General Information** Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills. The product should not be allowed to enter drains, water courses or the soil. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Use non-sparking handtools and explosionproof electrical equipment.



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Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Following product recovery, flush area with water.

6.4. Reference to other sections

<b>Personal Protective Equipment</b>	See Section 8 for more detail.
<b>Waste treatment</b>	See section 13.
<b>Other information</b>	Remove all sources of ignition. Stop all work that requires a naked flame, stop all vehicles, stop all machines and equipment that may cause sparks or flames.

Section 7: HANDLING AND STORAGE
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7.1. Precautions for safe handling

<b>Advice on safe handling</b>	For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.
<b>Technical measures</b>	Ensure adequate ventilation. Do not spray at high pressure (> 3 bar) . WHILE MOVING THE PRODUCT: To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Do not allow splash loading and ensure that the product is poured slowly, particularly at the beginning of the operation.
<b>Prevention of fire and explosion</b>	OPERATE ONLY ON COLD AND DEGASSED TANKS IN VENTILATED PREMISES (TO AVOID RISK OF EXPLOSION). Handle away from any source of ignition (open flame and sparks) and heat (hot manifolds or casings). Do not smoke. Use explosionproof electrical equipment. Take precautionary measures against static discharges. Do not use compressed air for filling, discharging or handling. Design installations (machinery and equipment) to prevent burning product from spreading (tanks, retention systems, interceptors (traps) in drainage systems).
<b>Hygiene measures</b>	Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Do not dry hands with rags that have been contaminated with product. Do not use abrasives, solvents or fuels. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

<b>Technical measures/Storage conditions</b>	Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Storage installations should be designed with adequate bunds so as to prevent ground or water pollution in case of leaks or spills. Use explosionproof electrical equipment. Keep in a bunded area. Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Ground/bond
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containers, tanks and transfer/receiving equipment. Store at room temperature. Keep containers tightly closed and properly labelled.

**Materials to Avoid**

Strong acids. Oxidizing agents.

**Packaging material**

Use material compatible with: . Keep only in the original container or in a suitable container for this kind of product. steel . Stainless steel. Recommended materials for containers, or container linings use mild steel, stainless steel.

7.3. Specific end uses**Specific use(s)**

See exposure scenarios.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters**Exposure limits**

Ingredients with workplace control parameters

**Legend**

See section 16

**Advisory OEL**

CEFIC-HSPA : 1200 mg/m<sup>3</sup>

**Derived No Effect Level (DNEL)**

According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified

**Predicted No Effect Concentration (PNEC)**

According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified

8.2. Exposure controls**Occupational Exposure Controls****Engineering Measures**

When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment. Apply technical measures to comply with the occupational exposure limits.

**Personal Protective Equipment****General Information**

Protective engineering solutions should be implemented and in use before personal protective equipment is considered.  
These recommendations apply to the product as supplied.  
If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

**Respiratory protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. For rescue and maintenance work in storage tanks use self-contained breathing apparatus.  
In an emergency or for exceptional short-lasting jobs in an atmosphere polluted by the product, it is necessary to wear protective respiratory equipment.  
The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.



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<b>Eye Protection</b>	If splashes are likely to occur, wear: Safety glasses with side-shields.
<b>Skin and body protection</b>	Wear suitable protective clothing. Protective shoes or boots. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.
<b>Hand Protection</b>	Impervious gloves, aliphatic hydrocarbon resistant. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

<b>Repeated or prolonged exposure</b>			
Glove material	Glove thickness	Break through time	Remarks
Nitrile rubber	> 0.3 mm	> 480 min	EN 374
PVA	(*)	> 480 min	EN 374 (*) any thickness
Fluorinated rubber Viton (R)	(*)	> 480 min	EN 374 (*) any thickness

<b>In case of contact through splashing:</b>			
Glove material	Glove thickness	Break through time	Remarks
Neoprene Chloroprene	> 0.7 mm	> 60 min	EN 374
Nitrile rubber	> 0.3 mm	> 60 min	EN 374

**Environmental exposure controls**

**General Information** Do not allow material to contaminate ground water system.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

**Color** colorless  
**Physical State @20°C** liquid  
**Odor** Petroleum solvent  
**Odor Threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
<b>pH</b>		Not applicable	
<b>Melting point/range</b>		No information available	
<b>Boiling point/boiling range</b>	175 - 235 °C 347 - 455 °F		EN ISO 3405 EN ISO 3405
<b>Flash point</b>	> 63 °C > 145 °F		ASTM D 93 ASTM D 93
<b>Evaporation rate</b>	191	EtEt=1	DIN 53170
<b>Flammability Limits in Air</b>			
<b>upper</b>	7 %		
<b>Lower</b>	0.6 %		
<b>Vapor Pressure</b>	0.38 hPa	@ 20 °C	
<b>Vapor density</b>		No information available	
<b>Relative density</b>	0.80	No information available	
<b>Density</b>	800 kg/m <sup>3</sup>	@ 15 °C	ISO 12185
<b>Water solubility</b>		Substance is a UVCB. Standard tests for this endpoint are not appropriate	



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<b>Solubility in other solvents</b>		Soluble in many common organic solvents	
<b>logPow</b>		Not applicable	
<b>Autoignition temperature</b>	> 230 °C	This temperature may be significantly lower under particular conditions (slow oxidation on finely divided materials...)	ASTM E 659
<b>Decomposition temperature</b>	> 446 °F	No information available	ASTM E 659
<b>Viscosity, kinematic</b>	< 20.5 mm <sup>2</sup> /s	@ 40 °C	ASTM D 445
<b>Explosive properties</b>		Not considered explosive based on chemical structure and oxygen balance considerations	
<b>Oxidizing Properties</b>		This product is not considered oxidising based on chemical structure considerations	
<b>Possibility of hazardous reactions</b>		None under normal processing	

9.2. Other information

<b>Surface tension</b>	0.0249 N/m	@ 25 °C	EN 14370
<b>Freezing Point</b>		No information available	

## Section 10: STABILITY AND REACTIVITY

10.1. Reactivity**General Information** None under normal processing.10.2. Chemical stability**Stability** Stable under recommended storage conditions.10.3. Possibility of hazardous reactions**Hazardous Reactions** None under normal processing.10.4. Conditions to Avoid**Conditions to Avoid** Heat, flames and sparks. Take precautionary measures against static discharges.10.5. Incompatible materials**Materials to Avoid** Strong acids. Oxidizing agents.10.6. Hazardous Decomposition Products**Hazardous Decomposition Products** Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

## Section 11: TOXICOLOGICAL INFORMATION





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11.1. Information on toxicological effectsAcute toxicity Local effects Product Information

<b>Skin contact</b>	Symptoms :. Redness. Prolonged or repeated contact may dry skin and cause irritation.
<b>Eye contact</b>	. Contact with eyes may cause irritation.
<b>Inhalation</b>	. The inhalation of vapours or aerosols may be irritating for the respiratory tract and for mucous membranes, Eye Irritation. Vapors inhaled in strong concentration have a narcotic effect on the central nervous system.
<b>Ingestion</b>	. If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Abdominal pain. May cause central nervous system depression.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	LD50 > 5000 mg/kg bw (rat - OECD 401)	LD50 (24h) > 2000 mg/kg bw (rat - OECD 402)	LC50(8h) > 5000 mg/m <sup>3</sup> (Rat - Vapours - OECD 403)

Sensitization

**Sensitization** Not classified as a sensitizer.

Specific effects

<b>Carcinogenicity</b>	This product is not classified carcinogenic.
<b>Mutagenicity</b>	The mutagenic potential of the substance has been extensively studied in a range of in-vivo and in-vitro assays.
<b>Germ Cell Mutagenicity</b>	Genetic toxicity : negative.
<b>Reproductive toxicity</b>	Studies in rats with the substance did not show any effect on reproductive performance.
<b>Developmental Toxicity</b>	Results of guideline developmental toxicity studies on the substance and OECD developmental toxicity screening studies showed no evidence of developmental toxicity in rats.
<b>Repeated Dose Toxicity</b>	
<b>Subchronic toxicity</b>	No information available.
<b>Target Organ Effects (STOT)</b>	
<b>Specific target organ systemic toxicity (single exposure)</b>	This substance does not meet the EU criteria for classification.
<b>Specific target organ systemic toxicity (repeated exposure)</b>	This substance does not meet the EU criteria for classification.
<b>Aspiration toxicity</b>	The fluid can enter the lungs and cause damage (chemical pneumonitis, potentially fatal).
<b>Other information</b>	



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**Other adverse effects** Frequent or prolonged skin contact destroys the lipoacid cutaneous layer and may cause dermatitis.

## Section 12: ECOLOGICAL INFORMATION

## 12.1. Toxicity

Not classified.

**Acute aquatic toxicity - Product Information**

Not applicable.

**Acute aquatic toxicity - Component Information**

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics ^	ErL50 (72h) > 1000 mg/l (Pseudokirchneriella subcapitata - OECD 201) EbL50 (72h) > 1000 mg/l (Pseudokirchneriella subcapitata - OECD 201)	EL50 (48h) > 1000 mg/l (Daphnia magna - OECD 202)	LL50 (96h) > 1000 mg/l (Oncorhynchus mykiss - OECD 203)	-

**Chronic aquatic toxicity - Product Information**

Not applicable.

**Chronic aquatic toxicity - Component Information**

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics ^	NOELR (72h) = 1000 mg/l (Pseudokirchneriella subcapitata - biomass - OECD 201) NOELR (72h) = 1000 mg/l (Pseudokirchneriella subcapitata - growth rate - OECD 201)	NOELR (21d) = 0,18 mg/l (Daphnia magna - QSAR Petrotox)	NOELR (28d) = 0,10 mg/l (Oncorhynchus mykiss - QSAR Petrotox)	

**Effects on terrestrial organisms**

No information available.

## 12.2. Persistence and degradability

**General Information**

Readily biodegradable ( 80 % after 28 days).

Biodegradation							
Type	Method	Sampling time	Specific effects	Values	Unit	Biodegradability	Source
	OECD 301F	28 days		80	%	Readily biodegradable	



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12.3. Bioaccumulative potential

**Product Information** Measured experimental data on hydrocarbon UVCB substances are not meaningful, since each of the constituents is likely to behave differently.

**logPow** Not applicable  
**Component Information** Not applicable.

12.4. Mobility in soil

**Soil** Given its physical and chemical characteristics, the product has no soil mobility.

**Air** The product evaporates readily.

**Water** The product is insoluble and floats on water.

12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment** This substance is considered not to be PBT and vPvB.

12.6. Other adverse effects

**General Information** No information available.

Section 13: DISPOSAL CONSIDERATIONS
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13.1. Waste treatment methods

**Waste from Residues / Unused Products** Dispose of in accordance with the European Directives on waste and hazardous waste.

**Contaminated packaging** Empty containers may contain flammable or explosive vapors. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**EWC Waste Disposal No.** According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION
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ADR/RID Not regulated

IMDG/IMO Not regulated

ICAO/IATA Not regulated

ADN

**UN/ID No**

UN9003

**Proper shipping name**

SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C



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<b>Proper shipping name</b>	SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C
<b>Hazard class</b>	9
<b>Description</b>	UN9003, SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C, 9

## Section 15: REGULATORY INFORMATION

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

European Union

**REACH**

The EC substance definition is included in the CAS related number description for global inventory entries

**Other regulations**

Directive 1999/13/EC on the limitation of emissions of volatile organic compounds

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds

**Related CAS number** 64742-48-9

International Inventories The substance is listed or exempted from listing in the following inventories:

- Europe (EINECS/ELINCS/NLP)
- U.S.A. (TSCA)
- Canada (DSL/NDSL)
- Australia (AICS)
- Korea (KECL)
- China (IECSC)
- Japan (ENCS)
- Philippines (PICCS)
- New Zealand (NZIoC)
- Taiwan (TCSI)

Further information

No information available

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

## Section 16: OTHER INFORMATION

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

H304 - May be fatal if swallowed and enters airways

EUH066 - Repeated exposure may cause skin dryness or cracking

**Abbreviations, acronyms**



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ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals

LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

dw = dry weight

fw = fresh water

mw = marine water

or = occasional release

**Legend Section 8**

TWA: Time Weight Average

STEL: Short Time Exposure Limit

PEL: Permissible exposure limit

REL: Recommended exposure limit

TLV: Threshold Limit Values

+ Sensitizer

\*\* Hazard Designation

M: Mutagen

\*

C:

R:

Skin designation

Carcinogen

Toxic to reproduction

**Revision Date:** 2017-01-03**Revision Note** (M)SDS sections updated. Exposure scenario.**Further information** Other uses than these listed under section 1.2 may have been foreseen for the substance(s) contained in the product. Please contact us if your use is not listed under section 1.2.**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the Safety Data Sheet

**TFGES1IH304**  
**Version 1.0**

## 1. Exposure scenario

### Manufacture of substances, Industrial.

#### Use Descriptor

##### Sector of use

SU3 - Industrial Manufacturing (all)  
SU8 - Manufacture of bulk, large scale chemicals (including petroleum products)  
SU9 - Manufacture of fine chemicals  
SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

##### Process Category

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)  
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities  
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
PROC15 - Use as a laboratory reagent

##### Environmental Release Category

ERC1 - Manufacture of substances  
ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

##### Processes, tasks, activities covered

Manufacture of the substance or use as a process chemical or extraction agent within closed or contained systems. Includes incidental exposures during recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Not applicable.

#### Amounts used

Not applicable

#### Environment factors not influenced by risk management

Not applicable

#### Other operational conditions of use affecting environmental exposure

Not applicable.

#### Technical conditions and measures at process level to prevent release

Not applicable.

#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Not applicable

#### Organizational measures to prevent/limit release from the site

Not applicable.

#### Conditions and measures related to municipal sewage treatment plant

Not applicable

#### Conditions and measures related to external treatment of waste for disposal

Not applicable.

#### Conditions and measures related to external recovery of waste

Not applicable.

## 2.2. Control of exposure - Workers / Consumers

### Product characteristics

#### Physical State

liquid

#### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

#### Other operational conditions affecting exposure

Assumes a good basic standard of occupational hygiene is implemented.

### 2.2a. Control of worker exposure

#### Contributing Scenarios

#### Operational conditions and risk management measures

#### Remarks

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.

This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.

Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.

The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

### 2.2b. Control of consumer exposure

#### Product Category(ies)

#### Operational conditions and risk management measures

#### Remarks

Not applicable.

## 3. Exposure estimation and references

### Health

Not applicable

### Environment

Not applicable.

## 4. Guidance for Downstream User to check compliance with the Exposure scenario

### Health

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

### Environment

Not applicable.

**TFGES1AIH304**  
**Version 1.0**

## 1. Exposure scenario

### Distribution of substance, Industrial.

#### Use Descriptor

##### Sector of use

SU3 - Industrial Manufacturing (all)  
SU8 - Manufacture of bulk, large scale chemicals (including petroleum products)  
SU9 - Manufacture of fine chemicals

#### Process Category

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)  
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises  
PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities  
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  
PROC9 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
PROC15 - Use as a laboratory reagent

#### Environmental Release Category

ERC1 - Manufacture of substances  
ERC2 - Formulation of mixtures  
ERC3 - Formulation in materials  
ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles  
ERC5 - Industrial use resulting in inclusion into or onto a matrix  
ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)  
ERC6b - Industrial use of reactive processing aids  
ERC6c - Industrial use of monomers for manufacture of thermoplastics  
ERC6d - Industrial use of process regulators for polymerization processes in production of resins, rubbers, polymers  
ERC7 - Industrial use of substances in closed systems

#### Processes, tasks, activities covered

Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Not applicable.

#### Amounts used

Not applicable

#### Environment factors not influenced by risk management

Not applicable

#### Other operational conditions of use affecting environmental exposure

Not applicable.

#### Technical conditions and measures at process level to prevent release

Not applicable.

#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Not applicable

#### Organizational measures to prevent/limit release from the site

Not applicable.



**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

## 2.2. Control of exposure - Workers / Consumers

**Product characteristics****Physical State**

liquid

**Concentration of substance in product**

Covers percentage substance in the product up to 100 % (unless stated differently).

**Frequency and duration of use**

Covers daily exposures up to 8 hours (unless stated differently)

**Other operational conditions affecting exposure**

Assumes a good basic standard of occupational hygiene is implemented.

### 2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures
<b>Remarks</b> The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity. This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived. Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance. The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.	

### 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
<b>Remarks</b> Not applicable.	

## 3. Exposure estimation and references

**Health**

Not applicable

**Environment**

Not applicable.

## 4. Guidance for Downstream User to check compliance with the Exposure scenario

**Health**

Available hazard data do not support the need for a DNEL to be established for other health effects.  
 Risk Management Measures are based on qualitative risk characterisation.

**Environment**

Not applicable.

**TFGES2IH304**  
**Version 1.0**

## 1. Exposure scenario

### Formulation & (re)packing of substances and mixtures, Industrial.

#### Use Descriptor

##### Sector of use

SU3 - Industrial Manufacturing (all)

SU10 - Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

#### Process Category

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)

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC14 - Production of mixtures or articles by tableting, compression, extrusion, pelletization

PROC15 - Use as a laboratory reagent

#### Environmental Release Category

ERC2 - Formulation of mixtures

#### Processes, tasks, activities covered

Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

#### Product characteristics

Not applicable.

#### Amounts used

Not applicable

#### Environment factors not influenced by risk management

Not applicable

#### Other operational conditions of use affecting environmental exposure

Not applicable.

#### Technical conditions and measures at process level to prevent release

Not applicable.

#### Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Not applicable

#### Organizational measures to prevent/limit release from the site

Not applicable.

#### Conditions and measures related to municipal sewage treatment plant

Not applicable

#### Conditions and measures related to external treatment of waste for disposal

Not applicable.

#### Conditions and measures related to external recovery of waste

Not applicable.

## 2.2. Control of exposure - Workers / Consumers

### Product characteristics

#### Physical State

liquid

#### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

#### Other operational conditions affecting exposure

Assumes a good basic standard of occupational hygiene is implemented.

### 2.2a. Control of worker exposure

#### Contributing Scenarios

#### Operational conditions and risk management measures

#### Remarks

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.

This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.

Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.

The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

### 2.2b. Control of consumer exposure

#### Product Category(ies)

#### Operational conditions and risk management measures

#### Remarks

Not applicable.

## 3. Exposure estimation and references

### Health

Not applicable

### Environment

Not applicable.

## 4. Guidance for Downstream User to check compliance with the Exposure scenario

### Health

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

### Environment

Not applicable.

**TFGES3IH304**  
**Version 1.0**

## **1. Exposure scenario**

### **Uses in Coatings, Industrial.**

**Use Descriptor**

**Sector of use**

SU3 - Industrial Manufacturing (all)

**Process Category**

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)

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC7 - Industrial spraying

PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC10 - Roller application or brushing

PROC13 - Treatment of articles by dipping and pouring

PROC14 - Production of mixtures or articles by tableting, compression, extrusion, pelletization

PROC15 - Use as a laboratory reagent

**Environmental Release Category**

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

**Processes, tasks, activities covered**

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

## **2. Operational conditions and risk management measures**

### **2.1. Control of environmental exposure**

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

<b>2.2. Control of exposure - Workers / Consumers</b>
---

**Product characteristics****Physical State**

liquid

**Concentration of substance in product**

Covers percentage substance in the product up to 100 % (unless stated differently).

**Frequency and duration of use**

Covers daily exposures up to 8 hours (unless stated differently)

**Other operational conditions affecting exposure**

Assumes a good basic standard of occupational hygiene is implemented.

<b>2.2a. Control of worker exposure</b>
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<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures</b>
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**Remarks**

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.

This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.

Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.

The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

<b>2.2b. Control of consumer exposure</b>
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<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures</b>
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**Remarks**

Not applicable.

<b>3. Exposure estimation and references</b>
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**Health**

Not applicable

**Environment**

Not applicable.

<b>4. Guidance for Downstream User to check compliance with the Exposure scenario</b>
---

**Health**

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

**Environment**

Not applicable.

**TFGES3PH304**  
**Version 1.0**

## **1. Exposure scenario**

### **Uses in Coatings, Professional.**

**Use Descriptor**

**Sector of use**

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Process Category**

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)

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC10 - Roller application or brushing

PROC11 - Non industrial spraying

PROC13 - Treatment of articles by dipping and pouring

PROC15 - Use as a laboratory reagent

PROC19 - Hand-mixing with intimate contact and only PPE available

**Environmental Release Category**

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8d - Wide dispersive outdoor use of processing aids in open systems

**Processes, tasks, activities covered**

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.

## **2. Operational conditions and risk management measures**

### **2.1. Control of environmental exposure**

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

<b>2.2. Control of exposure - Workers / Consumers</b>
---

**Product characteristics****Physical State**

liquid

**Concentration of substance in product**

Covers percentage substance in the product up to 100 % (unless stated differently).

**Frequency and duration of use**

Covers daily exposures up to 8 hours (unless stated differently)

**Other operational conditions affecting exposure**

Assumes a good basic standard of occupational hygiene is implemented.

<b>2.2a. Control of worker exposure</b>
---

<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures</b>
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**Remarks**

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.

This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.

Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.

The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

<b>2.2b. Control of consumer exposure</b>
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<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures</b>
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**Remarks**

Not applicable.

<b>3. Exposure estimation and references</b>
--

**Health**

Not applicable

**Environment**

Not applicable.

<b>4. Guidance for Downstream User to check compliance with the Exposure scenario</b>
---

**Health**

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

**Environment**

Not applicable.



**TFGES3CH304**  
**Version 1.0**

## 1. Exposure scenario

### Uses in Coatings, Consumer.

**Use Descriptor**

**Sector of use**

SU21 - Private households (=general public = consumers)

**Product Category**

PC1 - Adhesives, Sealants

PC4 - Anti-Freeze and De-icing products

PC9a - Coatings and Paints, Thinners, Paint removers

PC9b - Fillers, putties, plasters, modelling clay

PC9c - Finger paints

PC15 - Non-metal-surface treatment products

PC18 - Ink and Toners

PC23 - Leather tanning, dyes, finishing, impregnation and care products

PC24 - Lubricants, Greases and Release Products

PC31 - Polishes and Wax Blends

PC34 - Textile dyes, finishing and impregnating products including bleaches and other processing aids

PC0 - Other, excipient only

**Environmental Release Category**

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8d - Wide dispersive outdoor use of processing aids in open systems

**Processes, tasks, activities covered**

Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

**2.2. Control of exposure - Workers / Consumers****Product characteristics****Physical State**

liquid

**Concentration of substance in product**

Covers percentage substance in the product up to 100 % (unless stated differently).

**Frequency and duration of use**

Covers daily exposures up to 8 hours (unless stated differently)

**Other operational conditions affecting exposure**

Assumes a good basic standard of occupational hygiene is implemented.

**2.2a. Control of worker exposure****Contributing Scenarios****Operational conditions and risk management measures****Remarks**

Not applicable.

**2.2b. Control of consumer exposure****Product Category(ies)****Operational conditions and risk management measures****Remarks**

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.

This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.

Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.

The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

**3. Exposure estimation and references****Health**

Not applicable

**Environment**

Not applicable.

**4. Guidance for Downstream User to check compliance with the Exposure scenario****Health**

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

**Environment**

Not applicable.

**TFGES4IH304**  
**Version 1.0**

## **1. Exposure scenario**

### **Use in Cleaning Agents, Industrial.**

**Use Descriptor**

**Sector of use**

SU3 - Industrial Manufacturing (all)

**Process Category**

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)

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

PROC7 - Industrial spraying

PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC10 - Roller application or brushing

PROC13 - Treatment of articles by dipping and pouring

**Environmental Release Category**

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

**Processes, tasks, activities covered**

Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers

Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

## **2. Operational conditions and risk management measures**

### **2.1. Control of environmental exposure**

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

## 2.2. Control of exposure - Workers / Consumers

### Product characteristics

#### Physical State

liquid

#### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

#### Other operational conditions affecting exposure

Assumes a good basic standard of occupational hygiene is implemented.

### 2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures
<p><b>Remarks</b></p> <p>The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.</p> <p>This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.</p> <p>Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.</p> <p>The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.</p>	

### 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
<p><b>Remarks</b></p> <p>Not applicable.</p>	

## 3. Exposure estimation and references

### Health

Not applicable

### Environment

Not applicable.

## 4. Guidance for Downstream User to check compliance with the Exposure scenario

### Health

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

### Environment

Not applicable.

**TFGES4PH304**  
**Version 1.0**

## 1. Exposure scenario

### Use in Cleaning Agents, Professional.

**Use Descriptor**

**Sector of use**

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Process Category**

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)

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8a - Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at non dedicated facilities

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC10 - Roller application or brushing

PROC11 - Non industrial spraying

PROC13 - Treatment of articles by dipping and pouring

**Environmental Release Category**

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8d - Wide dispersive outdoor use of processing aids in open systems

**Processes, tasks, activities covered**

Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

## 2.2. Control of exposure - Workers / Consumers

### Product characteristics

#### Physical State

liquid

#### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

#### Other operational conditions affecting exposure

Assumes a good basic standard of occupational hygiene is implemented.

### 2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures
<p><b>Remarks</b></p> <p>The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.</p> <p>This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.</p> <p>Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.</p> <p>The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.</p>	

### 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures
<p><b>Remarks</b></p> <p>Not applicable.</p>	

## 3. Exposure estimation and references

### Health

Not applicable

### Environment

Not applicable.

## 4. Guidance for Downstream User to check compliance with the Exposure scenario

### Health

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

### Environment

Not applicable.

**TFGES4CH304**  
**Version 1.0**

## **1. Exposure scenario**

### **Use in Cleaning Agents, Consumer.**

**Use Descriptor**

**Sector of use**

SU21 - Private households (=general public = consumers)

**Product Category**

PC3 - Air care products

PC4 - Anti-Freeze and De-icing products

PC9a - Coatings and Paints, Thinners, Paint removers

PC9b - Fillers, putties, plasters, modelling clay

PC9c - Finger paints

PC24 - Lubricants, Greases and Release Products

PC35 - Washing and Cleaning Products (including solvent based products)

PC38 - Welding and soldering products (with flux coatings or flux cores.), flux products

PC0 - Other, excipient only

**Environmental Release Category**

ERC8a - Wide dispersive indoor use of processing aids in open systems

ERC8d - Wide dispersive outdoor use of processing aids in open systems

**Processes, tasks, activities covered**

Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.

## **2. Operational conditions and risk management measures**

### **2.1. Control of environmental exposure**

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

## 2.2. Control of exposure - Workers / Consumers

### Product characteristics

#### Physical State

liquid

#### Concentration of substance in product

Covers percentage substance in the product up to 100 % (unless stated differently).

#### Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently)

#### Other operational conditions affecting exposure

Assumes a good basic standard of occupational hygiene is implemented.

### 2.2a. Control of worker exposure

Contributing Scenarios	Operational conditions and risk management measures

#### Remarks

Not applicable.

### 2.2b. Control of consumer exposure

Product Category(ies)	Operational conditions and risk management measures

#### Remarks

The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.

This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.

Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.

The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.

## 3. Exposure estimation and references

### Health

Not applicable

### Environment

Not applicable.

## 4. Guidance for Downstream User to check compliance with the Exposure scenario

### Health

Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.

### Environment

Not applicable.



**TFGES17IH304**  
**Version 1.0**

## 1. Exposure scenario

### Use in laboratories, Industrial.

**Use Descriptor**

**Sector of use**

SU3 - Industrial Manufacturing (all)

**Process Category**

PROC10 - Roller application or brushing

PROC15 - Use as a laboratory reagent

**Environmental Release Category**

ERC2 - Formulation of mixtures

ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

**Processes, tasks, activities covered**

Use of the substance within laboratory settings, including material transfers and equipment cleaning.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

### 2.2. Control of exposure - Workers / Consumers

**Product characteristics**

**Physical State**

liquid

**Concentration of substance in product**

Covers percentage substance in the product up to 100 % (unless stated differently).

**Frequency and duration of use**

Covers daily exposures up to 8 hours (unless stated differently)

**Other operational conditions affecting exposure**

Assumes a good basic standard of occupational hygiene is implemented.

<b>2.2a. Control of worker exposure</b>	
<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures</b>
<p><b>Remarks</b></p> <p>The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.</p> <p>This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.</p> <p>Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.</p> <p>The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.</p>	

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures</b>
<p><b>Remarks</b></p> <p>Not applicable.</p>	

<b>3. Exposure estimation and references</b>
<p><b>Health</b></p> <p>Not applicable</p> <p><b>Environment</b></p> <p>Not applicable.</p>

<b>4. Guidance for Downstream User to check compliance with the Exposure scenario</b>
<p><b>Health</b></p> <p>Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.</p> <p><b>Environment</b></p> <p>Not applicable.</p>

**TFGES17PH304**  
**Version 1.0**

## 1. Exposure scenario

### Use in laboratories, Professional.

**Use Descriptor**

**Sector of use**

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Process Category**

PROC10 - Roller application or brushing

PROC15 - Use as a laboratory reagent

**Environmental Release Category**

ERC8a - Wide dispersive indoor use of processing aids in open systems

**Processes, tasks, activities covered**

Use of the substance within laboratory settings, including material transfers and equipment cleaning.

## 2. Operational conditions and risk management measures

### 2.1. Control of environmental exposure

**Product characteristics**

Not applicable.

**Amounts used**

Not applicable

**Environment factors not influenced by risk management**

Not applicable

**Other operational conditions of use affecting environmental exposure**

Not applicable.

**Technical conditions and measures at process level to prevent release**

Not applicable.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Not applicable

**Organizational measures to prevent/limit release from the site**

Not applicable.

**Conditions and measures related to municipal sewage treatment plant**

Not applicable

**Conditions and measures related to external treatment of waste for disposal**

Not applicable.

**Conditions and measures related to external recovery of waste**

Not applicable.

### 2.2. Control of exposure - Workers / Consumers

**Product characteristics**

**Physical State**

liquid

**Concentration of substance in product**

Covers percentage substance in the product up to 100 % (unless stated differently).

**Frequency and duration of use**

Covers daily exposures up to 8 hours (unless stated differently)

**Other operational conditions affecting exposure**

Assumes a good basic standard of occupational hygiene is implemented.

<b>2.2a. Control of worker exposure</b>	
<b>Contributing Scenarios</b>	<b>Operational conditions and risk management measures</b>
<p><b>Remarks</b></p> <p>The CLP hazard statement H304 (May be fatal if swallowed and enters airways) relates to a risk of aspiration which is associated to a non-quantifiable hazard determined by kinematic viscosity.</p> <p>This risk may arise if swallowed but also in case of vomiting after ingestion. The toxicity hazard of aspiration, although being a hazard for health, does not result from any observed toxicological effect characterized by a dose-response. Therefore no DNEL can be derived.</p> <p>Operational Conditions (OCs) and implementation of Risk Management Measures (RMMs) need to be proportional to the degree of concern for the health hazard presented by the substance.</p> <p>The exposure by ingestion should not exist in the case of any permitted uses of the substance. The hazard statement H304 is related to a misuse that should not occur during the identified uses stated in section 1.2 of Material Safety Data Sheet (MSDS). In case of any risk, it should be controlled by implementing RMMs tailored specifically. For any substance classified H304, these RMMs should be communicated via the MSDS by the use of the following statement: « Do not ingest. If swallowed then seek immediate medical assistance », to cover this risk.</p>	

<b>2.2b. Control of consumer exposure</b>	
<b>Product Category(ies)</b>	<b>Operational conditions and risk management measures</b>
<p><b>Remarks</b></p> <p>Not applicable.</p>	

<b>3. Exposure estimation and references</b>
<p><b>Health</b></p> <p>Not applicable</p> <p><b>Environment</b></p> <p>Not applicable.</p>

<b>4. Guidance for Downstream User to check compliance with the Exposure scenario</b>
<p><b>Health</b></p> <p>Available hazard data do not support the need for a DNEL to be established for other health effects. Risk Management Measures are based on qualitative risk characterisation.</p> <p><b>Environment</b></p> <p>Not applicable.</p>