

Safety data sheet

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name **TRISAN**

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

Intended use **DETERGENT ONLY FOR INDUSTRIAL/PROFESSIONAL USE.
SANITIZING DEGREASING DETERGENT READY TO USE FOR QUICK CLEANING INTERVENTION.**

1.3. Details of the supplier of the safety data sheet

Name **AR-CO CHIMICA S.R.L.**
Full address **Via Canalazzo 22/24**
District and Country **41036 MEDOLLA (MO)
ITALY**
Tel. +39 053558890
Fax +39 053558898

e-mail address of the competent person

responsible for the Safety Data Sheet **reach@arcochimica.it**
Product distribution by **AR-CO CHIMICA**

1.4. Emergency telephone number

For urgent inquiries refer to **Numeri telefonici dei principali Centri Antiveleni italiani (attivi 24/24 ore)**
Centro Antiveleni di Milano 02 66101029 (CAV Ospedale Niguarda Ca` Granda -Milano)
(H24)
Centro Antiveleni di Pavia 0382 24444 (CAV IRCCS Fondazione Maugeri - Pavia)
Centro Antiveleni di Bergamo 800 883300 (CAV Ospedali Riuniti - Bergamo)
Centro Antiveleni di Firenze 055 7947819 (CAV Ospedale Careggi - Firenze)
Centro Antiveleni di Roma 06 3054343 (CAV Policlinico Gemelli - Roma)
Centro Antiveleni di Roma 06 49978000 (CAV Policlinico Umberto I - Roma)
Centro Antiveleni di Napoli 081 7472870 (CAV Ospedale Cardarelli - Napoli)
AR-CO CHIMICA
+39 053558890 (ORE UFFICIO / OFFICE HOURS 08:00-12:30 / 14:00-17:30)

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

Danger Symbols:

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R phrases:

10

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.



Signal words:

Warning

Hazard statements:

H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
EUH208 Contains:
 1,5-pentanedial , Poly(hexamethylene) biguanide hydrochloride

May produce an allergic reaction.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P280 Wear protective gloves / eye protection / face protection.
P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water / shower.
P333+P313 If skin irritation or rash occurs: get medical advice.
P370+P378 In case of fire: use . . . to extinguish.

Contains: Poly(hexamethylene) biguanide hydrochloride

2.3. Other hazards.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients.**3.1. Substances.**

Information not relevant.

3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
ETHANOL			
CAS. 64-17-5 EC. 200-578-6 INDEX. 603-002-00-5 Reg. no. 01-2119457610-43	9 - 30	F R11	Flam. Liq. 2 H225
DIPROPYLENE GLYCOL MONOMETHYL ETHER			
CAS. 34590-94-8 EC. 252-104-2 INDEX. - Reg. no. 01 2119450011-60	1 - 5		Substance with a community workplace exposure limit.
Poly(hexamethylene) biguanide hydrochloride			
CAS. 27083-27-8 EC. - INDEX. -	0,1 - 0,25	Carc. Cat. 3 R40, T R48/23, Xn R22, Xi R41, Xi R43, N R50/53	Carc. 2 H351, Acute Tox. 4 H302, STOT RE 1 H372, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=10
1,5-pentanedial			
CAS. 111-30-8 EC. 203-856-5 INDEX. 605-022-00-X	0 - 0,5	T R23/25, C R34, Xn R42/43, N R50	Acute Tox. 3 H301, Acute Tox. 3 H331, Skin Corr. 1B H314, Resp. Sens. 1 H334, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1
METHANOL			
CAS. 67-56-1 EC. 200-659-6 INDEX. 603-001-00-X	0 - 0,5	F R11, T R23/24/25, T R39/23/24/25	Flam. Liq. 2 H225, Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331, STOT SE 1 H370

Note: Upper limit is not included into the range.

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.**5.1. Extinguishing media.****SUITABLE EXTINGUISHING EQUIPMENT**

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture.**HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters.**GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.**6.1. Personal precautions, protective equipment and emergency procedures.**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.**7.1. Precautions for safe handling.**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.**8.1. Control parameters.**

Regulatory References:

AUS	Österreich	Grenzwerteverordnung 2011 - GKV 2011
BEL	Belgique	AR du 11/3/2002. La liste est mise à jour pour 2010
CYP	Κύπρος	Κ.Δ.Π. 268/2001; Κ.Δ.Π. 55/2004; Κ.Δ.Π. 295/2007; Κ.Δ.Π. 70/2012
DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GRB	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
IRL	Éire	Code of Practice Chemical Agent Regulations 2011
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
SVN	Slovenija	Uradni list Republike Slovenije 15. 6. 2007
EU	OEL EU	Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.
	TLV-ACGIH	ACGIH 2014

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ETHANOL**Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
MAK	AUS	1900	1000	3800	2000
VLEP	BEL	1907	1000		
AGW	DEU	960	500	1920	1000
MAK	DEU	960	500	1920	1000
VLA	ESP			1910	1000
VLEP	FRA	1900	1000	9500	5000
WEL	GRB	1920	1000		
TLV	GRC	1900	1000		
OEL	IRL				1000
TLV-ACGIH				1884	1000

DIPROPYLENE GLYCOL MONOMETHYL ETHER**Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	307	50	614	100	SKIN.
VLEP	BEL	308	50			SKIN.
TLV	CYP	308	50			SKIN.
AGW	DEU	310	50	310	50	
MAK	DEU	310	50	310	50	
VLA	ESP	308	50			SKIN.
VLEP	FRA	308	50			SKIN.
WEL	GRB	308	50			SKIN.
TLV	GRC	600	100	900	150	
OEL	IRL	308	50			SKIN.
TLV	ITA	308	50			SKIN.
MV	SVN	308	50			SKIN.
OEL	EU	308	50			SKIN.
TLV-ACGIH		606	100	909	150	SKIN.

METHANOL**Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	260	200	1040	800	SKIN.
VLEP	BEL	266	200	333	250	SKIN.
TLV	CYP	260	200			SKIN.
AGW	DEU	270	200	1080	800	SKIN.
MAK	DEU	270	200	1080	800	SKIN.
VLA	ESP	266	200			SKIN.
VLEP	FRA	260	200	1300	1000	SKIN.
WEL	GRB	266	200	333	250	SKIN.

TLV	GRC	260	200	325	250	
OEL	IRL	260	200			SKIN.
TLV	ITA	260	200			SKIN.
OEL	EU	260	200			SKIN.
TLV-ACGIH		262	200	328	250	

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance liquid

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Colour	pink
Odour	citric note / alcoholic
Odour threshold.	Not available.
pH.	2,60 +/- 0,50
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	38 °C.
Evaporation Rate	Not available.
Flammability of solids and gases	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	0,950 +/- 0,025
Solubility	IN ALL PROPORTIONS
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

Information not available.

SECTION 10. Stability and reactivity.**10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

DIPROPYLENE GLYCOL MONOMETHYL ETHER: may react with oxidising agents. When heated to decomposition it releases harsh and irritating fumes and vapours.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

The vapours may also form explosive mixtures with the air.

ETHANOL: risk of explosion on contact with: alkaline metals, alkaline oxides, calcium hypochlorite, sulphur monofluoride, acetic anhydride (with acids), concentrated hydrogen peroxide, perchlorates, perchloric acid, perchloronitrile, mercury nitrate, nitric acid, silver and nitric acid, silver nitrate, silver nitrate and ammonia, silver oxide and ammonia, strong oxidising agents, nitrogen dioxide. Can react dangerously with: bromoacetylene, chlorine acetylene, bromine trifluoride, chromium trioxide, chromyl chloride, oxiranes, fluorine, potassium tert-butoxide, lithium hydride, phosphorus trioxide, black platinum, zirconium (IV) chloride, zirconium (IV) iodide. Forms an explosive mixture with the air.

10.4. Conditions to avoid.

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

ETHANOL: avoid exposure to sources of heat and naked flames.

10.5. Incompatible materials.

Information not available.

10.6. Hazardous decomposition products.

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurries, ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

This product contains sensitizing substance/s and may cause allergic reactions.

METHANOL: The minimal lethal dose following ingestion is considered to be in the range of 300-1000 mg/kg. Ingestion of as little as 4-10 ml methanol in adults may cause permanent blindness (IPCS).

Poly(hexamethylene) biguanide hydrochloride
LD50 (Oral).> 2000 mg/kg ratto
LD50 (Dermal).> 5000 mg/kg ratto

ETHANOL
LD50 (Oral).> 5000 mg/kg Rat
LC50 (Inhalation).120 mg/l/4h Pimephales promelas

SECTION 12. Ecological information.

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity.

Poly(hexamethylene) biguanide hydrochloride LC50 - for Fish.	0,026 mg/l/96h oncorhynchus mykiss
EC50 - for Crustacea.	0,04 mg/l/48h daphnia magna
EC50 - for Algae / Aquatic Plants.	> 0,02 mg/l/72h selenastrum capricornutum

1,5-pentanedial LC50 - for Fish.	10,5 mg/l/96h
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12.2. Persistence and degradability.DIPROPYLENE GLYCOL
MONOMETHYL ETHER

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

METHANOL

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

ETHANOL

Solubility in water. mg/l 1000 - 10000

Rapidly biodegradable.

12.3. Bioaccumulative potential.DIPROPYLENE GLYCOL
MONOMETHYL ETHERPartition coefficient: n-
octanol/water. 0,0043

METHANOL

Partition coefficient: n-
octanol/water. -0,77

BCF. 0,2

ETHANOL

Partition coefficient: n-
octanol/water. -0,35**12.4. Mobility in soil.**

Information not available.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.**14.1. UN number.**

ADR / RID, IMDG, UN: 1993
IATA:

14.2. UN proper shipping name.

ADR / RID: FLAMMABLE
LIQUID, N.O.S.
IMDG: FLAMMABLE
LIQUID, N.O.S.
IATA:

14.3. Transport hazard class(es).

ADR / RID: Class: 3 Label: 3
IMDG: Class: 3 Label: 3
IATA: Class: 3 Label: 3

**14.4. Packing group.**

ADR / RID, IMDG, III
IATA:

14.5. Environmental hazards.

ADR / RID: NO

14.6. Special precautions for user.

ADR / RID:	Nr. Kemler: 30	Limited Quantity 5 L	Tunnel restriction code (D/E)
IMDG:	Special Provision: - EMS: F-E, #S-E	Limited Quantity 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum	Packaging

quantity: 60 L

instructions:
355

Special Instructions:

A3

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.

SECTION 15. Regulatory information.**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.**Seveso category. 6Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.Product Point. 3 - 40Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

Ingredients according to Regulation (EC) No. 648/2004

Less than 5% phosphonates, non-ionic surfactants

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Carc. 2	Carcinogenicity, category 2
Acute Tox. 3	Acute toxicity, category 3
STOT SE 1	Specific target organ toxicity - single exposure, category 1
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H302	Harmful if swallowed.
H372	Causes damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R10	FLAMMABLE.
R11	HIGHLY FLAMMABLE.
R22	HARMFUL IF SWALLOWED.
R23/24/25	TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
R23/25	TOXIC BY INHALATION AND IF SWALLOWED.
R34	CAUSES BURNS.
R39/23/24/25	TOXIC: DANGER OF VERY SERIOUS IRREVERSIBLE EFFECTS THROUGH INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

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Carc. Cat. 3	Carcinogenicity, category 3.
R40	LIMITED EVIDENCE OF A CARCINOGENIC EFFECT.
R41	RISK OF SERIOUS DAMAGE TO EYES.
R42/43	MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
R43	MAY CAUSE SENSITISATION BY SKIN CONTACT.
R48/23	TOXIC: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.
R50	VERY TOXIC TO AQUATIC ORGANISMS.
R50/53	VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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 5. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 6. Regulation (EU) 453/2010 of the European Parliament
 7. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 8. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 9. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 10. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 11. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - Niosh - Registry of Toxic Effects of Chemical Substances
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - ECHA website

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and

thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:

The following sections were modified:

02 / 08 / 11 / 12 / 13 / 14 / 16.