

	Safety data sheet
<b>SECTION 1. Identification of the s</b>	ubstance/mixture and of the company/undertaking
1.1. Product identifier	
Product name Chemical name and synonym	PROSEAL Waxes and resins in solution
1.2. Relevant identified uses of the substance	or mixture and uses advised against
Intended use	Water and oil-proof superficial treatment.
1.3. Details of the supplier of the safety data sl	heet
Name Full address District and Country	Tenax Spa Via I Maggio, 226 37020 Volargne (VR) Italy Tel. +39 045 6887593 Fax +39 045 6862456
e-mail address of the competent person responsible for the Safety Data Sheet	msds@tenax.it
1.4. Emergency telephone number	
For urgent inquiries refer to	800.883300 (24h)Centro Antiveleni (Bergamo)0 800 314 7900 (Turkey) only, or +90 0312 433 70 01Toxicology Department andPoisons Centre+98 21 6419306 / +98 21 6405569Poisons Information Centre (Tehran)+91 484 4008056Poison Control Centre (South India)(011) 642 2417 / (011) 488 3108Anti-Poison Centre (Johannesburg)

## **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.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.
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:	Xn

R phrases: 10-52/53-65-66-67

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



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## SECTION 2. Hazards identification.

## 2.2. Label elements.

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

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Hazard pictograms:



Signal words:	Danger
Hazard statements: H226 H304 H336 H412 EUH066	Flammable liquid and vapour. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects. Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves / eye protection / face protection.
P301+P310	IF SWALLOWED: immediately call a POISON CENTER / doctor /
P501	Dispose of contents / container according to applicable law.
Contains:	NAPHTA (PETROL.) HYDROTREATED HEAVY
	N-BUTYL ACETATE

## Distillates (petroleum), hydrotreated light : Kerosine - unspecified

## 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%.

Substance	s.			
Informat	on not relevan	t.		
Mixtures.				
Contains:				
Identificati	on.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
NAPHTA (I	PETROL.) HYDRO	REATED HEAVY		
CAS. EC. INDEX. Reg. no.	64742-48-9 927-241-2 649-327-00-6 01-2119471843-	50 - 100 32	R10, R52/53, Xn R65, R66, R67, Note H P	Asp. Tox. 1 H304, STOT SE 3 H336, Aquatic Chronic 3 H412, EUH066, Note H P
N-BUTYL A		02		
CAS. EC. INDEX. Reg. no.	123-86-4 204-658-1 607-025-00-1 01-2119485493-	30 - 50 29	R10, R66, R67	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
•			osine - unspecified	
CAS. EC. INDEX.	64742-47-8 265-149-8 649-422-00-2	5 - 10	Xn R65	Asp. Tox. 1 H304
	ENE GLYCOL MO		ER	
CAS. EC. INDEX.	34590-94-8 252-104-2	1 - 3,5		Substance with a community workplace exposure limit.
Reg. no.	01-21194460011	-60-0000		

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 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

#### 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.

## **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.



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## **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. 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. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

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

Store only in the original container. 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:** 

BEL F CHE S CYP F CZE C DEU F DNK F ESP F	Κύπρος	Grenzwerteverordnung 2011 - GKV 2011 AR du 11/3/2002. La liste est mise à jour pour 2010 Valeurs limites d'exposition aux postes de travail 2012. / Grenzwerte am Arbeitsplatz K.Δ.Π. 268/2001; K.Δ.Π. 55/2004; K.Δ.Π. 295/2007; K.Δ.Π. 70/2012 Nařízení vlády č. 361/2007 Sb. kterým se stanoví podmínky ochrany zdraví při práci MAK-und BAT-Werte-Liste 2012 Graensevaerdier per stoffer og materialer INSHT - Límites de exposición profesional para agentes químicos en España 2015 HTP-arvot 2012. Haitallisiksi tunnetut pitoisuudet - Sosiaali- ja terveysministeriön julkaisuja 2012:5
GRB GRC I IRL I ITA I NLD I NOR I POL I SVK S SVN S SWE S EU O	France United Kingdom Ελλάδα Éire Italia Norge Polska Slovensko Slovenija Sverige OEL EU TLV-ACGIH	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102 EH40/2005 Workplace exposure limits EΦHMEPIΣ THΣ KYBEPNHΣEΩΣ -TEYXOΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012 Code of Practice Chemical Agent Regulations 2011 Decreto Legislativo 9 Aprile 2008, n.81 Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18 Veiledning om Administrative normer for forurensning i arbeidsatmosfære ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 16 grudnia 2011r NARIADENIE VLÁDY Slovenskej republiky z 20. júna 2007 Uradni list Republike Slovenije 15. 6. 2007 Occupational Exposure Limit Values, AF 2011:18 Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC. ACGIH 2014

NAPHTA (PETROL.) HYDROTREATED HEAVY					
Threshold Limit Value.					
Туре	Country	TWA/8h		STEL/15n	nin
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		1595			



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## SECTION 8. Exposure controls/personal protection. />>

#### N-BUTYL ACETATE

Threshold Limit V	alue.					
Туре	Country	TWA/8h		STEL/15		
••		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	480	100	480	100	
VLEP	BEL	723	150	964	200	
VEL	CHE	480	100	960	200	
MAK	CHE	480	100	960	200	
TLV	CZE	950		1200		
MAK	DEU	480	100	960	200	
VLA	ESP	724	150	965	200	
VLEP	FRA	710	150	940	200	
WEL	GRB	724	150	966	200	
TLV	GRC	710	150	950	200	
OEL	IRL	710	150	950	200	
OEL	NLD	150				
TLV	NOR		75			
NDS	POL	200		950		
NPHV	SVK	480	100	960		
MAK	SWE	500	100	700	150	
TLV-ACGIH		713	150	950	200	

#### DIPROPYLENE GLYCOL MONOMETHYL ETHER

				TEENE OFFOO		
hreshold Limit V	alue.					
Туре	Country	TWA/8h		STEL/15		
	-	mg/m3	ppm	mg/m3	ppm	
MAK	AUS	307	50	614	100	SKIN.
VLEP	BEL	308	50			SKIN.
TLV	CYP	308	50			SKIN.
TLV	CZE	270		550		SKIN.
AGW	DEU	310	50	310	50	
MAK	DEU	310	50	310	50	
TLV	DNK	300	50			
VLA	ESP	308	50			SKIN.
HTP	FIN	310	50			
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.
TLV	NOR	300	50			SKIN.
NDS	POL	240		480		
NPHV	SVK	308	50			SKIN.
MV	SVN	308	50			SKIN.
MAK	SWE	300	50	450	75	SKIN.
OEL	EU	308	50			SKIN.
TLV-ACGIH		606	100	909	150	SKIN.

Legend:

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

mg/m3.

TLV of solvent mixture:

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.

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

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 I 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.





SECTION 8. Exposure controls/personal protection. />>

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.

9.1. Information on basic physical and chemical	
Appearance	liquid
Colour	transparent
Odour	aromatic
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	23 ≤ T ≤ 60 °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.	0,82 Kg/l
Solubility	SOLUBLE IN AROMATIC
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.	
VOC (Directive 1999/13/EC) :	96,75 % - 793,35 g/litre.
VOC (volatile carbon) :	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.

N-BUTYL ACETATE: decomposes readily with water, especially when warm.

#### 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.

N-BUTYL ACETATE: risk of explosion on contact with: strong oxidising agents. Can react dangerously with alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with the air.

#### 10.4. Conditions to avoid.

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

N-BUTYL ACETATE: avoid exposure to moisture, sources of heat and naked flames.



## SECTION 10. Stability and reactivity.

#### 10.5. Incompatible materials.

N-BUTYL ACETATE: water, nitrates, strong oxidising agents, acids and alkalis and potassium tert-butoxide.

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#### 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.

The introduction of even small quantities of this liquid into the respiratory system in case of ingestion or vomit may cause bronchopneumonia and pulmonary edema.

This product contains highly volatile substances, which may cause serious depression of the central nervous system (CNS) and have negative effects, such as drowsiness, dizziness, slow reflexes, narcosis.

This product may have a degreasing action on the skin, producing dryness and chapped skin after repeated exposure.

N-BUTYL ACETATE:in humans the substance's vapours cause irritation to the eues and nose. In the event of repeated exposure, there is skin irritation, dermatosis (with driness and flaking of the skin) and keratitis.

N-BUTYL ACETATE	
LD50 (Oral).	> 6400 mg/kg Rat
LD50 (Dermal).	> 5000 mg/kg Rabbit
LC50 (Inhalation).	21,1 mg/l/4h Rat

## **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.

N-BUTYL ACETATE EC50 - for Crustacea.

> 44 mg/l/48h

#### 12.2. Persistence and degradability.

DIPROPYLENE GLYCOL MONOMETHYL ETHER	
Solubility in water.	mg/l 1000 - 10000
Rapidly biodegradable.	

N-BUTYL ACETATE Solubility in water.

mg/l 1000 - 10000

### 12.3. Bioaccumulative potential.

DIPROPYLENE GLYCOL MONOMETHYL ETHER Partition coefficient: n-octanol/water. 0,0043

N-BUTYL ACETATE	
Partition coefficient: n-octanol/water.	2,3
BCF.	15,3

#### 12.4. Mobility in soil.

N-BUTYL ACETATE	
Partition coefficient: soil/water.	< 3

#### 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%.



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## SECTION 12. Ecological information.

#### 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, IATA: UN: 1993

#### 14.2. UN proper shipping name.

ADR / RID:	FLAMMABLE LIQUID, N.O.S. (N-BUTYL ACETATE)
IMDG:	FLAMMABLE LIQUID, N.O.S. (N-BUTYL ACETATE)
IATA:	FLAMMABLE LIQUID, N.O.S. (N-BUTYL ACETATE)

#### 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, IATA:

#### 14.5. Environmental hazards.

ADR / RID:	NO
IMDG:	NO
IATA:	NO

#### 14.6. Special precautions for user.

IMDG:

IATA:

Nr. Kemler: 30 Special Provision: 640E <u>EMS: F-E, S</u>-E Cargo: Pass.: Special Instructions: Limited Quantity 5 L

Limited Quantity 5 L Maximum quantity: 220 L Maximum quantity: 60 L A3 Tunnel restriction code (D/E)

Packaging instructions: 366 Packaging instructions: 355

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.





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## SECTION 15. Regulatory information.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.
Product.

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Point.

Substances in Candidate List (Art. 59 REACH).

None. Substances subject to authorisarion (Annex XIV REACH).

None.

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

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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.

#### 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. 3	Flammable liquid, category 3
Asp. Tox. 1	Aspiration hazard, category 1
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.
	Harmful to aquatic life with long lasting effects.

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

R10	FLAMMABLE.
R52/53	HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R65	HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.
R66	REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.
R67	VAPOURS MAY CAUSE DROWSINESS AND DIZZINESS.

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



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## SECTION 16. Other information.

- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train

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- 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

- 1. Directive 1999/45/EC and following amendments
- 2. Directive 67/548/EEC and following amendments and adjustments
- 3. Regulation (EU) 1907/2006 (REACH) of the European Parliament
- 4. Regulation (EU) 1272/2008 (CLP) of the European Parliament
- 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: 01 / 02 / 08 / 09 / 11 / 12 / 14.