

Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878

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

1.1. Product identifier

Code: 04080000P
Product name: REPAR FLEX COAT
UFI: NEJ1-D0T1-4009-RES8

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

Intended use: Highly elastic sealant for waterproof crack sealing

1.3. Details of the supplier of the safety data sheet

Name: AZICHEM SRL
Full address: Via G. Gentile 16/A
District and Country: 46044 Goito (Mantova) Italia
Tel.: 0376604185
e-mail address of the competent person responsible for the Safety Data Sheet: laboratorio@azichem.com

1.4. Emergency telephone number

For urgent inquiries refer to:
Osp. Pediatrico Bambino Gesù ROMA: 06 68593726
Az. Osp. Univ. Foggia FOGGIA: 800183459
Az. Osp. "A. Cardarelli" NAPOLI: 081-5453333
Policlinico "Umberto I" ROMA: 06-49978000
Policlinico "A. Gemelli" ROMA: 06-3054343
Az. Osp. "Careggi" U.O. Tossicologia Medica FIRENZE: 055-7947819
Centro Nazionale di Informazione Tossicologica PAVIA: 0382-24444
Osp. Niguarda Ca' Granda MILANO: 02-66101029
Azienda Ospedaliera Papa Giovanni XXII BERGAMO: 800883300
Azienda Ospedaliera Integrata VERONA: 800011858

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 (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms:



Signal words: Warning

SECTION 2. Hazards identification ... / >>

Hazard statements:

- H317** May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

- P280** Wear protective gloves.
P273 Avoid release to the environment.
P391 Collect spillage.
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P333+P313 If skin irritation or rash occurs: Get medical advice / attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

Contains:

2-OCTYL-2H-ISOTHIAZOL-3-ONE
MIXTURE OF: 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE [N. CE 247-500-7];
2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)
1,2-BENZISOTHIAZOL-3(2H)-ONE

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration $\geq$ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
4-nonylphenol, branched, propoxylated		
INDEX	1,5 ≤ x < 2	Aquatic Chronic 4 H413
EC	933-043-7	
CAS		
ETHYLENE GLYCOL		
INDEX	603-027-00-1	Acute Tox. 4 H302 ATE Oral: 500 mg/kg
EC	203-473-3	
CAS	107-21-1	
2-BROMO-2-NITROPROPANE-1,3-DIOL		
INDEX	603-085-00-8	Acute Tox. 4 H302, Acute Tox. 4 H312, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Acute 1 H400 M=10 ATE Oral: 500 mg/kg, ATE Dermal: 1100 mg/kg
EC	200-143-0	
CAS	52-51-7	
1,2-BENZISOTHIAZOL-3(2H)-ONE		
INDEX	613-088-00-6	Acute Tox. 4 H302, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411 Skin Sens. 1 H317: ≥ 0,05% LD50 Oral: 490 mg/kg
EC	220-120-9	
CAS	2634-33-5	
REACH Reg.	01-2120761540-60-xxxx	
Diuron (ISO)		
INDEX	006-015-00-9	Carc. 1B H350, STOT RE 2 H373, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100
EC	206-354-4	
CAS	330-54-1	
REACH Reg.	01-2119517622-45-XXXX	
pyrithione zinc		
INDEX	613-333-00-7	Repr. 1B H360D, Acute Tox. 2 H330, Acute Tox. 3 H301, STOT RE 1 H372, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=10 LD50 Oral: 221 mg/kg, LC50 Inhalation mists/powders: 0,14 mg/l
EC	236-671-3	
CAS	13463-41-7	
2-OCTYL-2H-ISOTHIAZOL-3-ONE		
INDEX	613-112-00-5	Acute Tox. 2 H330, Acute Tox. 3 H301, Acute Tox. 3 H311, Skin Corr. 1 H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071 Skin Sens. 1A H317: ≥ 0.0015%
EC	247-761-7	

SECTION 3. Composition/information on ingredients ... / >>

CAS	26530-20-1		LD50 Oral: 125 mg/kg, LD50 Dermal: 311 mg/kg, LC50 Inhalation mists/powders: 0,27 mg/l/4h
MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)			
INDEX	613-167-00-5	0,0015 ≤ x < 0,0025	Acute Tox. 2 H310, Acute Tox. 2 H330, Acute Tox. 3 H301, Skin Corr. 1C H314, Eye Dam. 1 H318, Skin Sens. 1A H317, Aquatic Acute 1 H400 M=100, Aquatic Chronic 1 H410 M=100, EUH071
EC			Skin Corr. 1C H314: ≥ 0,6%, Skin Irrit. 2 H315: ≥ 0,06% - < 0,6%, Skin Sens. 1A H317: ≥ 0,0015%, Eye Dam. 1 H318: ≥ 0,6%, Eye Irrit. 2 H319: ≥ 0,06% - < 0,6%
CAS	55965-84-9		LD50 Oral: 200 mg/kg, LD50 Dermal: 87,12 mg/kg, LC50 Inhalation mists/powders: 0,33 mg/l/4h
REACH Reg.	01-2120764691-48-xxxx		

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

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

Specific information on symptoms and effects caused by the product are unknown.

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

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

If skin irritation or rash occurs: Get medical advice / attention.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

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. 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

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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. 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:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.)
DEU	Deutschland	WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe
ESP	España	Límites de exposición profesional para agentes químicos en España 2024
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ "σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιογόνους παράγοντες κατά την εργασία"»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
HRV	Hrvatska	PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI

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

ITA	Italia	OPASNIM KEMIKAJIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA
PRT	Portugal	Decreto Legislativo 9 Aprile 2008, n.81
POL	Polska	Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração
ROU	România	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
GBR	United Kingdom	HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea și completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerințelor minime de securitate și sănătate pentru protecția lucrătorilor împotriva riscurilor legate de expunerea la agenți ca
EU	OEL EU	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	ACGIH	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
		ACGIH 2025

2-OCTYL-2H-ISOTHIAZOL-3-ONE

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
AGW	DEU	0,05	0,1	INHAL
AGW	DEU	0,05	0,1	SKIN
MAK	DEU	0,05	0,1	INHAL
MAK	DEU	0,05	0,1	SKIN

ETHYLENE GLYCOL

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
TLV	BGR	52	20	SKIN
AGW	DEU	26	10	SKIN 11
MAK	DEU	26	10	SKIN
VLA	ESP	52	20	SKIN
VLEP	FRA	52	20	SKIN
TLV	GRC	125	50	SKIN
AK	HUN	52	20	SKIN
GVI/KGVI	HRV	52	20	SKIN
VLEP	ITA	52	20	SKIN
VLE	PRT	52	20	SKIN
NDS/NDSch	POL	15	50	SKIN
TLV	ROU	52	20	SKIN
WEL	GBR	52	20	SKIN
OEL	EU	52	20	SKIN
ACGIH			25	50
ACGIH			10	INHAL

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

Diuron (ISO)

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
VLA	ESP	10		
VLEP	FRA	10		

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00032	mg/l
Normal value in marine water	0,000032	mg/l
Normal value for fresh water sediment	0,05172	mg/kg
Normal value for marine water sediment	0,005172	mg/kg
Normal value for marine water, intermittent release	0,00022	mg/l
Normal value of STP microorganisms	58	mg/l
Normal value for the terrestrial compartment	0,012	mg/kg
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Inhalation								0,17 mg/m3
Skin								5,79 mg/kg bw/d

pyrithione zinc

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00009	mg/l
Normal value in marine water	0,00009	mg/l
Normal value for fresh water sediment	0,0095	mg/kg
Normal value for marine water sediment	0,0095	mg/kg
Normal value of STP microorganisms	0,01	mg/l
Normal value for the terrestrial compartment	1,02	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Skin								0,01 mg/kg bw/d

1,2-BENZISOTHIAZOL-3(2H)-ONE

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00403	mg/l
Normal value in marine water	0,000403	mg/l
Normal value for fresh water sediment	0,0499	mg/kg/d
Normal value for marine water sediment	0,0499	mg/kg/d
Normal value for marine water, intermittent release	0,0011	mg/l
Normal value for fresh water, intermittent release	0,00011	mg/l
Normal value of STP microorganisms	103	mg/l
Normal value for the terrestrial compartment	3	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
	local	systemic	local	systemic		systemic	local	systemic
Inhalation				1,2 mg/m3				6,81 mg/m3
Skin	LOW		LOW	0,345 mg/kg bw/d	LOW		LOW	0,966 mg/kg bw/d

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

MIXTURE OF: 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE

[No. CE 220-239-6] (3:1)

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00339	mg/l
Normal value in marine water	0,00339	mg/l
Normal value for fresh water sediment	0,027	mg/kg/d
Normal value for marine water sediment	0,027	mg/kg/d
Normal value for marine water, intermittent release	0,00339	mg/l
Normal value for fresh water, intermittent release	0,00339	mg/l
Normal value of STP microorganisms	0,25	mg/l
Normal value for the terrestrial compartment	0,01	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local	Chronic systemic	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0,11 mg/kg bw/d		0,09 mg/kg bw/d				
Inhalation	0,04 mg/m3		0,02 mg/m3		0,04 mg/m3		0,02 mg/m3	
Skin	MED				MED			

Legend:

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

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

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.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, permeability time.

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 Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN ISO 16321).

RESPIRATORY PROTECTION

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. Use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).

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

Properties	Value	Information
Appearance	pasty liquid	
Colour	opalescent	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	102 °C	
Flammability	not available	
Lower explosive limit		

SECTION 9. Physical and chemical properties ... / >>

Upper explosive limit	not available		
Flash point	not available		
Auto-ignition temperature	not available		
Decomposition temperature	not available		
pH	8		
Kinematic viscosity	not available		
Solubility	not available		
Partition coefficient: n-octanol/water	not available		
Vapour pressure	2342,2	Pa	Temperature: 20 °C
Density and/or relative density	1,325	g/cm3	
Relative vapour density	not available		
Particle characteristics	not applicable		

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

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.

ETHYLENE GLYCOL

In the air absorbs moisture. Decomposes at temperatures above 200°C/392°F.

2-BROMO-2-NITROPROPANE-1,3-DIOL

Decomposes on contact with: water, metals, strong bases.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

ETHYLENE GLYCOL

Risk of explosion on contact with: perchloric acid. May react dangerously with: chlorosulphuric acid, sodium hydroxide, sulphuric acid, phosphorus pentasulphide, chromium (III) oxide, chromyl chloride, potassium perchlorate, potassium dichromate, sodium peroxide, aluminium. Forms explosive mixtures with: air.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

ETHYLENE GLYCOL

Avoid exposure to: sources of heat, naked flames.

2-BROMO-2-NITROPROPANE-1,3-DIOL

Avoid exposure to: light, UV rays, moisture.

10.5. Incompatible materials

1,2-BENZISOTHIAZOL-3(2H)-ONE

Oxidizing agents, acids, reducing agents.

MIXTURE OF: 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Oxidizing agents, Amines, Reducing agents, Mercaptans.

SECTION 10. Stability and reactivity ... / >>

10.6. Hazardous decomposition products

ETHYLENE GLYCOL

May develop: hydroxyacetaldehyde, glyoxal, acetaldehyde, methane, carbon monoxide, hydrogen.

2-BROMO-2-NITROPROPANE-1,3-DIOL

May develop: nitric oxide, carbon oxides, hydrobromic acid.

1,2-BENZISOTHIAZOL-3(2H)-ONE

Sulfur oxides, nitrogen oxides.

SECTION 11. Toxicological information

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.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

ETHYLENE GLYCOL

WORKERS: inhalation; contact with the skin.

POPULATION: inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

ETHYLENE GLYCOL

Ingestion initially stimulates the central nervous system; later replaced by a phase of depression. There may be kidney damage, with anuria and uremia. Over-exposure symptoms are: vomiting, drowsiness, difficulty in breathing, convulsions. The lethal dose for humans is approx. 1.4 ml/kg.

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:

Not classified (no significant component)

ATE (Oral) of the mixture:

Not classified (no significant component)

ATE (Dermal) of the mixture:

Not classified (no significant component)

ETHYLENE GLYCOL

LD50 (Dermal):

9530 mg/kg Rabbit

LD50 (Oral):

> 2000 mg/kg Rat

2-BROMO-2-NITROPROPANE-1,3-DIOL

ATE (Oral):

500 mg/kg estimate from table 3.1.2 of Annex I of the CLP

ATE (Dermal):

1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP

1,2-BENZISOTHIAZOL-3(2H)-ONE

LD50 (Dermal):

> 2000 mg/kg

LD50 (Oral):

490 mg/kg

Method: equivalent or similar to OECD 401

Reliability (Klimisch score): 1

Species: rat (Wistar; male/female)

Routes of exposure: oral

Results: LD50 = 490 mg/kg. The substance is classified as acute oral toxicant Cat. 4 (Harmonized classification, CLP Reg., Annex VI)

Method: OECD 402

Reliability (Klimisch score): 2

Species: rat (CD; male/female)

Routes of exposure: dermal

LD50 results: > 2000 mg/kg.

SECTION 11. Toxicological information ... / >>

Diuron (ISO)
LD50 (Dermal): 5000 mg/kg Rat
LD50 (Oral): 4150 mg/kg Rat
LC50 (Inhalation mists/powders): 5,05 mg/l/4h Rat

pyrithione zinc
LD50 (Dermal): 2000 mg/kg Rat
LD50 (Oral): 221 mg/kg Rat
LC50 (Inhalation mists/powders): 0,14 mg/l

2-OCTYL-2H-ISOTHIAZOL-3-ONE
LD50 (Dermal): 311 mg/kg
LD50 (Oral): 125 mg/kg Rat
LC50 (Inhalation mists/powders): 0,27 mg/l/4h Rat

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

LD50 (Dermal): 87,12 mg/kg Coniglio maschio C(M)IT/MIT (14%) (OECD 402)- opinion RAC
LD50 (Oral): 200 mg/kg
LC50 (Inhalation mists/powders): 0,33 mg/l/4h

Method: OECD 423
Reliability (Klimisch score): 1
Species: Rat (Wistar; female)
Routes of exposure: oral
Results: LD50 200 mg/kg

Method: OECD 403
Reliability (Klimisch score): 1
Species: rat (CrI:CD BR; male/female)
Routes of exposure: inhalation
Results: LC50 0.33 mg/l/4h (aerosol)

Reliability (Klimisch score): 2
Species: rabbit (Albino)
Routes of exposure: dermal
Results: LD50 87.12 mg/kg (C(M)IT/MIT 14%)
Bibliographical reference: Craig 1993

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

The substance is classified as a skin irritant Cat. 2 (Harmonised classification, CLP Reg., Annex VI).

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Method: OECD 404
Reliability (Klimisch score): 1
Species: rabbit (New Zealand White)
Routes of exposure: dermal
Results: corrosive to the skin. SCL (specific concentration limit $C \geq 0.6\%$ - Reg. (EU) 2018/1480)

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

Method: Equivalent or similar to EPA OPP 81-4

Reliability (Klimisch score): 1
Species: rabbit (New Zealand White)
Routes of exposure: ocular
Results: causes serious eye damage (Harmonised classification, CLP Reg., Annex VI).

SECTION 11. Toxicological information ... / >>

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Method: OECD 405

Reliability (Klimisch score): 1

Species: rabbit (New Zealand White)

Routes of exposure: ocular

Results: corrosive to the eyes

SCL (specific concentration limit - Reg. (EU) 2018/1480)

H318 cat.1 C ≥ 0.6%

H319 cat. 2 0.06% ≤ C < 0.6%

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Skin sensitization

1,2-BENZISOTHIAZOL-3(2H)-ONE

Method: Equivalent or similar to EPA OPP 81-6

Reliability (Klimisch score): 1

Species: Guinea pig (Dunkin-Hartley; female)

Routes of exposure: dermal

Results: skin sensitizer (Harmonized classification, CLP Reg., Annex VI).

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Bibliographic reference: National Institutes of Health Publication N° 99-449, Appendix J, 1999

Local lymph node testing. (LLNA)

Reliability (Klimisch score): 1

Species: mouse (CBA/J; female)

Results: skin sensitiser, cat 1A

SCL (specific concentration limit) (Reg. (EU) 2018/1480): C ≥ 0.0015 %

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

Method: OECD 476 - In vitro test

Reliability (Klimisch score): 1

Species: L5178Y murine lymphoma cells

Results: negative with no metabolic activation

Method: OECD 486

Reliability (Klimisch score): 1

Species: Rat (Han Wistar; male)

Routes of exposure: oral

Results: negative.

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Method: OECD 482 - In vitro test

Reliability (Klimisch score): 1

Results: Negative

Method: OECD 475 - In vivo test

Reliability (Klimisch score): 1

Routes of exposure: oral

Species: mouse (CD-1)

Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

ETHYLENE GLYCOL

Available studies have shown no carcinogenic potential. In a carcinogenicity study lasting two years, carried out by the US National Toxicology Program (NTP), in which ethylene glycol was administered in the feed, "no evidence of carcinogenic activity" in male and female B6C3F1 mice was observed (NTP, 1993).

SECTION 11. Toxicological information ... / >>**1,2-BENZISOTHIAZOL-3(2H)-ONE**

Based on available data, the substance does not have carcinogenic effects and is not classified under the relevant CLP hazard class of carcinogenicity.

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Based on available data, the substance does not have carcinogenic effects and is not classified under the CLP hazard class of carcinogenicity.

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

Method: EPA OPPTS 870.3800

Reliability (Klimisch score): 1

Species: rat (WI(Glx/BRL/Han)BR; female)

Routes of exposure: oral

Results: negative. NOAEL (P0) = 112 mg/kg body weight/day; NOAEL (F1) = 56.6 mg/kg body weight/day; NOAEL (F2a) = 56.6 mg/kg body weight/day.

Adverse effects on sexual function and fertility

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Method: OECD 416

Reliability (Klimisch score): 1

Species: rat Crl:CD BR

Routes of exposure: oral

Results: Negative. NOAEL = 300 ppm.

Adverse effects on development of the offspring

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Method: EPA OPP 83-3

Reliability (Klimisch score): 1

Species: rat (Sprague-Dawley)

Routes of exposure: oral

Results: LOAEL = 28 mg/kg. No signs of teratogenicity or embryotoxicity.

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

Based on available data, the substance does not present specific target organ toxicity effects for single exposure and is not classified under the relevant CLP hazard class.

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Based on available data, the substance does not present specific target organ toxicity effects for single exposure and is not classified under the relevant CLP hazard class.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

Method: EPA OPP 82-1

Reliability (Klimisch score): 1

Species: rat (Alpk:AfSD Male/Female)

Routes of exposure: oral

Results: negative. NOAEL = 69 mg/kg body weight/day.

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Method: OECD 409

Reliability (Klimisch score): 1

Species: dog (beagle)

SECTION 11. Toxicological information ... / >>

Routes of exposure: oral

Results: Negative. NOAEL = 22 mg/kg

Method: OECD 413

Reliability (Klimisch score): 1

Species: mouse (CrI:CD(SD)BR)

Routes of exposure: inhalation (aerosol)

Results: Negative. NOAEL = 0.34 mg/m³

Method: EPA OPP 82-3

Reliability (Klimisch score): 1

Species: rat (Sprague-Dawley)

Routes of exposure: dermal

Results: Negative. NOAEL (systemic toxicity): 18.75 mg/kg body weight/day. NOAEL (local irritation): 0.75 mg/kg body weight/day

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

1,2-BENZISOTHIAZOL-3(2H)-ONE

There are no data available on the danger in case of aspiration.

MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

There are no data available on the danger in case of aspiration.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

Diuron (ISO)

Repeated dose toxicity:

Oral:

NOAEL: 6.7 - 8.7 mg/kg bw/day (rat)

NOAEL: 1.8 mg/kg bw/day (dog)

LOAEL: 11 mg/kg bw/day (dog)

Inhalation:

NOAEC: 4.1 - 37.4 mg/m³ air (rat)

LOAEC: 37.4 - 268.1 mg/m³ air (rat)

Dermal:

NOAEL: 250 mg/kg bw/day (rabbit)

pyrithione zinc

Repeated dose toxicity:

Oral:

NOAE: 0.5 mg/kg bw/day (rat)

Inhalation:

NOAEL: 2 mg/m³ air (rat)

LOAEL: 6 mg/m³ air (rat)

Dermal:

NOAEL: 100 mg/kg bw/day (rat)

LOAEL: 1 000 mg/kg bw/day (rat)

SECTION 12. Ecological information

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

12.1. Toxicity

2-BROMO-2-NITROPROPANE-1,3-DIOL

LC50 - for Fish

EC50 - for Crustacea

20 mg/l/96h Oncorhynchus mykiss

1,6 mg/l/48h Daphnia magna

1,2-BENZISOTHIAZOL-3(2H)-ONE

LC50 - for Fish

EC50 - for Crustacea

2,15 mg/l/96h Oncorhynchus mykiss (OECD 203)

2,9 mg/l/48h Daphnia Magna (OECD 202)

SECTION 12. Ecological information ... / >>

EC50 - for Algae / Aquatic Plants	0,07 mg/l/72h <i>Pseudokirchneriella subcapitata</i> (OECD 201)
Chronic NOEC for Algae / Aquatic Plants	0,0403 mg/l (72h) <i>Selenastrum capricornutum</i> (OECD 201)
Diuron (ISO)	
LC50 - for Fish	14,7 mg/l/96h
EC50 - for Crustacea	1,4 mg/l/48h
EC50 - for Algae / Aquatic Plants	0,009 mg/l/72h
Chronic NOEC for Fish	0,001 mg/l (35 days)
Chronic NOEC for Crustacea	0,1 mg/l (21 days)
Chronic NOEC for Algae / Aquatic Plants	0,0032 mg/l (96h)
pyrithione zinc	
LC50 - for Fish	0,0026 mg/l/96h
EC50 - for Crustacea	0,0082 mg/l/48h
Chronic NOEC for Fish	0,00122 mg/l (28 days)
Chronic NOEC for Crustacea	0,00228 mg/l (28 days)
2-OCTYL-2H-ISOTHIAZOL-3-ONE	
EC50 - for Algae / Aquatic Plants	0,00129 mg/l/72h <i>Navicula pelliculosa</i>
EC10 for Algae / Aquatic Plants	0,000224 mg/l/48h <i>Navicula pelliculosa</i>
MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)	
LC50 - for Fish	0,19 mg/l/96h <i>Oncorhynchus mykiss</i> (EPA OPP 72-1)
EC50 - for Crustacea	0,16 mg/l/48h <i>Daphnia magna</i> (EPA OPP 72-2)
EC50 - for Algae / Aquatic Plants	0,0052 mg/l/48h <i>Skeletonema costatum</i> (OECD 201 - US EPA OPPTS 850.5400)
Chronic NOEC for Fish	> 0,0464 mg/l/35 giorni <i>Danio rerio</i> (OECD 210)
Chronic NOEC for Algae / Aquatic Plants	0,00049 mg/l/48 h <i>Skeletonema costatum</i> (OECD 201 - US EPA OPPTS 850.5400)

12.2. Persistence and degradability

ETHYLENE GLYCOL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	
2-BROMO-2-NITROPROPANE-1,3-DIOL	
Solubility in water	286000 mg/l
Rapidly degradable	
1,2-BENZISOTHIAZOL-3(2H)-ONE	
NOT rapidly degradable	62% in 4 giorni (OECD 301 C)
2-OCTYL-2H-ISOTHIAZOL-3-ONE	
Solubility in water	500 mg/l
NOT rapidly degradable	
MIXTURE OF: 5-CHLORO-2-METHYL-2H- ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)	
NOT rapidly degradable	
NOT rapidly degradable (OECD 301B)	

12.3. Bioaccumulative potential

ETHYLENE GLYCOL	
Partition coefficient: n-octanol/water	-1,36
2-BROMO-2-NITROPROPANE-1,3-DIOL	
Partition coefficient: n-octanol/water	0,22
BCF	3,16
1,2-BENZISOTHIAZOL-3(2H)-ONE	
Partition coefficient: n-octanol/water	0,7 T = 20 °C, pH = 7 (EU Method A.8 - HPLC)
BCF	6,95 OECD 305

SECTION 12. Ecological information ... / >>

2-OCTYL-2H-ISOTHIAZOL-3-ONE
Partition coefficient: n-octanol/water 2,61
BCF 19,21

MIXTURE OF: 5-CHLORO-2-METHYL-2H-ISOTHIAZOL-3-ONE [N. CE 247-500-7]; 2-METHYL-2H-ISOTHIAZOL-3-ONE [No. CE 220-239-6] (3:1)

Partition coefficient: n-octanol/water 0,75 C(M)IT: 0.75 MIT: -0.71 (OECD 107)
BCF 54 Lepomis macrochirus (OECD 305 E)

12.4. Mobility in soil

2-OCTYL-2H-ISOTHIAZOL-3-ONE
Partition coefficient: soil/water 2,25

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 $\geq$ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. 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.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

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

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

SECTION 14. Transport information ... / >>

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU:

E2

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

Product

Point 3

Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage $\geq$ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 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.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

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

Carc. 1B	Carcinogenicity, category 1B
Repr. 1B	Reproductive toxicity, category 1B
Acute Tox. 2	Acute toxicity, category 2
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1C	Skin corrosion, category 1C
Skin Corr. 1	Skin corrosion, category 1
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
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 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4

SECTION 16. Other information ... / >>

H350	May cause cancer.
H360D	May damage the unborn child.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH071	Corrosive to the respiratory tract.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 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: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 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: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

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2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)

SECTION 16. Other information ... / >>

13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
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20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
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- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

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.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.