

Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: DRAP251
Product name: EPOJOINT GRIGIO componente A

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

Intended use: Protective coating

Uses Advised Against

Do not use for uses other than those indicated.

1.3. Details of the supplier of the safety data sheet

Name: DRACO ITALIANA S.p.A.
Full address: Via Monte Grappa, 11 D-E
District and Country: 20067 Tribiano (MI)
Italia
Tel.: +39 02.90632917
Fax: +39 02.90631976

e-mail address of the competent person responsible for the Safety Data Sheet: info@draco-edilizia.it

1.4. Emergency telephone number

For urgent inquiries refer to:
Centro Antiveleni di Bergamo 800883300 (Azienda Ospedaliera Papa Giovanni XXII)
Centro Antiveleni di Firenze 0557947819 (Az. Osp. "Careggi" U.O. Tossicologia Medica)
Centro Antiveleni di Foggia 80018345 (Az. Osp. Univ. Foggia)
Centro Antiveleni di Milano 0266101029 (Osp. Niguarda Ca' Granda)
Centro Antiveleni di Napoli 0817472870 (Az. Osp. "A. Cardarelli")
Centro Antiveleni di Pavia 038224444 (CAV Centro Nazionale di Informazione Tossicologica)
Centro Antiveleni di Roma 063054343 (CAV Policlinico "A. Gemelli")
Centro Antiveleni di Roma 0649978000 (CAV Policlinico "Umberto I")
Centro Antiveleni di Roma 06 68593726 (CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza e Accettazione DEA)

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 2015/830. 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:

Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
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.

2.2. Label elements

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

Hazard pictograms:



DRAP251 - EPOJOINT GRIGIO componente A**SECTION 2. Hazards identification ... / >>**

Signal words: Warning

Hazard statements:

H319 Causes serious eye irritation.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
EUH208 Contains: Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives
 May produce an allergic reaction.

Precautionary statements:

P280 Wear protective gloves / eye protection / face protection.
P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P333+P313 If skin irritation or rash occurs: Get medical advice / attention.
P337+P313 If eye irritation persists: Get medical advice / attention.
P264 Wash . . . thoroughly after handling.
P362+P364 Take off contaminated clothing and wash it before reuse.

Contains: Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)
 2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane
 Anacardi guscio di noce di liquori

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%.

SECTION 3. Composition/information on ingredients**3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
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2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

CAS	1675-54-3	$2,5 \leq x < 5$	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	216-823-5		
INDEX	603-073-00-2		
Reg. no.	01-2119456619-26-xxxx		

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CAS	8007-24-7	$1 \leq x < 3$	Acute Tox. 4 H312, Eye Dam. 1 H318, Skin Irrit. 2 H315, Skin Sens. 1A H317, Aquatic Chronic 3 H412
EC	232-355-4		

Reg. no. 01-2120038044-68-XXXX

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

CAS	9003-36-5	$1 \leq x < 2,5$	Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	500-006-8		

Reg. no. 01-2119454392-40-XXXX

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

CAS	68609-97-2	$0,5 \leq x < 1$	Skin Irrit. 2 H315, Skin Sens. 1 H317
EC	271-846-8		

Reg. no. 01 2119485289-22-XXXX

QUARTZ

CAS	14808-60-7	$0 \leq x < 0,5$	STOT RE 2 H373
EC	238-878-4		

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 3. Composition/information on ingredients ... / >>****Phosphoric acid**

CAS 7664-38-2 $0 \leq x < 0,5$ Skin Corr. 1B H314, Eye Dam. 1 H318
EC 231-633-2
INDEX 015-011-00-6
Reg. no. 01-2119485924-24-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**

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. Rinse skin with a shower immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

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

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**

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

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

Phosphoric acid

CO₂, dust or water spray. Extinguish large fires with water spray or alcohol resistant foam.

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

Do not breathe combustion products.

Phosphoric acid

Hazardous combustion products: phosphorus oxides.

Combustion produces heavy smoke.

Do not inhale explosion and combustion gases.

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.

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 6. Accidental release measures ... / >>****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.

Phosphoric acid

Use only suitable materials for transport, storage and handling.

Avoid contact with skin and eyes, inhalation of vapors, mist or dust.

Do not use empty containers before they have been cleaned.

Before transfer operations, make sure that there are no incompatible residual materials in the containers.

Provide for industrial hygiene measures.

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.

Phosphoric acid

Keep packaging tightly closed

Keep away from food, drink and feed.

Incompatible materials: alkalis, reducing agents, metals (see also Section 10).

Suitable packaging materials: stainless steel, polyolefin.

Ensure good ventilation.

Storage class: 8B Deposit class (TRGS 510): 8B

7.3. Specific end use(s)

Information not available

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

Regulatory References:

FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
EU	OEL EU	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.
	TLV-ACGIH	ACGIH 2020

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 8. Exposure controls/personal protection ... / >>****2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane****Predicted no-effect concentration - PNEC**

Normal value in fresh water	3	µg/l
Normal value in marine water	0,3	µg/l
Normal value for fresh water sediment	0,5	mg/kg/d
Normal value for marine water sediment	0,5	mg/kg/d
Normal value for water, intermittent release	0,013	mg/l
Normal value of STP microorganisms	10	mg/l

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		0,75 mg/kg bw/d		0,75 mg/kg bw/d				
Inhalation		0,75 mg/m3		0,75 mg/m3		12,3 mg/m3		12,3 mg/m3
Skin		3,6 mg/kg bw/d		3,6 mg/kg bw/d		8,3 mg/kg bw/d		8,3 mg/kg bw/d

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,003	mg/l
Normal value in marine water	0,0003	mg/l
Normal value for fresh water sediment	0,294	mg/kg/d
Normal value for marine water sediment	0,0294	mg/kg/d
Normal value for water, intermittent release	0,0254	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,237	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				6,25 mg/kg bw/d				
Inhalation				8,7 mg/m3				29,39 mg/m3
Skin				62,5 mg/kg bw/d		8,3 µg/cm2		104,15 mg/kg bw/d

QUARTZ**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	FRA	0,1				RESP
VLEP	ITA	0,1				RESP
OEL	EU	0,1				RESP
TLV-ACGIH		0,025				

Phosphoric acid**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLEP	ITA	1		2		
WEL	GBR	1		2		
OEL	EU	1		2		
TLV-ACGIH		1		3		SKIN

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
Inhalation			0,73 mg/m3		2 mg/m3		1 mg/m3	

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

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.

Anacardi guscio di noce di liquori

DNEL Workers

Dermal Systematic, long term -14.5 - 15.5 mg / kg

Inhalation Systematic, long term -14.12 - 15.88 mg / m3

DNEL Consumers

Systematic oral, long term -14.17 - 15.12 mg / kg

Systematic cutaneous, long term - 14.75 - 15.25 mg / kg

Systematic inhalation, long term - 14.8 - 15.2 mg / m3

PNEC

STP 85 - 115 mg / l

Soil -3.13 - 26.87 mg / kg

Intermittent -14.97 - 15.03 mg / l

Oral -5 -25 g / kg

Fresh water -15 -15 mg / l

Marine water -15 -15 mg / l

Sediment (Fresh water) -14.03 - 15.97 mg / kg

Sediment (Marine water) - 14.96 - 15.04 mg / kg

Phosphoric acid

The toxicity of phosphoric acid is linked to its acidic nature. A generic PNEC (water) cannot be derived as the effects are highly dependent on the pH of the receiving waters and its repelling ability is highly variable.

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 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 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.

Phosphoric acid

Suitable respirator: use protective mask with ABEK-P2 filter.

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Properties	Value	Information
Appearance	viscous liquid	
Colour	grey	
Odour	characteristic	
Odour threshold	Not determined	
pH	7,5	
Melting point / freezing point	Not available	
Initial boiling point	120 °C	
Boiling range	Not available	
Flash point	100 °C	
Evaporation rate	Not determined	
Flammability (solid, gas)	not applicable	
Lower inflammability limit	Not available	
Upper inflammability limit	Not available	
Lower explosive limit	Not available	
Upper explosive limit	Not available	
Vapour pressure	Not determined	
Vapour density	Not determined	
Relative density	1,5 kg/L	
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	Not determined	
Auto-ignition temperature	400 °C	
Decomposition temperature	230	
Viscosity	44000 mPa	
Explosive properties	Non esplosivo	
Oxidising properties	not determined	

9.2. Other information

VOC (Directive 2010/75/EC) : 1,00 % - 14,94 g/litre

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

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

Phosphoric acid

It can give violent reaction. In contact with water an exothermic reaction may occur. In contact with reactive metals (mild steel, aluminum, etc.) hydrogen (explosive) may develop. Reaction with reducing agents.

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.

Phosphoric acid

When mixing with water, do not allow the mixture to reach too high temperatures. Add the acid in water slowly and with simultaneous stirring.

Dangerous reactions with metals (formation of hydrogen), alkalis (alkaline solutions), reducing agents, ammonia, fluorine, sulfur trioxide, phosphorus pentoxide.

10.4. Conditions to avoid

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

Phosphoric acid

Avoid exposing the product to high temperatures

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 10. Stability and reactivity ... / >>****10.5. Incompatible materials**

Phosphoric acid
Ammonia. Reactive metals. Strong bases.

10.6. Hazardous decomposition products

Phosphoric acid
Toxic phosphorus compounds.

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.

Phosphoric acid
The product is corrosive, therefore extremely irritated to the eyes, skin and mucous membranes, it can cause serious damage.

Phosphoric acid
The product is corrosive, therefore extremely irritated to the eyes, skin and mucous membranes, it can cause serious damage.

11.1. Information on toxicological effects

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives
Inhalation: May cause respiratory tract irritation.
Ingestion: Gastrointestinal symptoms, including stomach pain.
Skin contact: Irritating to skin. May cause sensitization by skin contact.
Contact with eyes: Irritating to eyes.

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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

Information not available

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:	>2000 mg/kg

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

LD50 (Oral)	> 2000 mg/kg Rat, OECD 420
LD50 (Dermal)	> 5000 (mg/kg Rat, OECD 401

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives	
LD50 (Oral)	17100 mg/kg Rat

Phosphoric acid	
LD50 (Oral)	2600 mg/kg Ratto
LD50 (Dermal)	2740 mg/kg Coniglio

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 11. Toxicological information ... / >>**

Anacardi guscio di noce di liquori
LD50 (Dermal)

1100 mg/kg Conversione in stima puntuale della tossicità acuta

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

Osservazioni - Inalazione:

A causa della tensione di vapore molto bassa (atmosfera satura = 0,008 ppb), non è stato possibile effettuare studi significativi sugli effetti dell'inalazione acuta.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

Acute toxicity - inhalation: in accordance with Annex VII of the REACH Regulation, it is not necessary to conduct the acute toxicity study by inhalation absorption, since oral and dermal absorption studies are available for this substance.

In a rat study according to the OECD standard n. 402 the dermal LD50 was > 2000 mg / kg. In several acute dermal toxicity studies in rabbits, LD50 was > 2000 mg / kg. In a rabbit study a LD50 value of 23 grams / kg was reported.

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

Acute toxicity - inhalation: No mortality was observed in rats exposed for 7 hours to saturated vapor (150 mg / m3).

LC50 (4h) 0.206 mg / l, Inhalation, Dusts / mists, Rat (0 Death.)

SKIN CORROSION / IRRITATION

Causes skin irritation

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

Risultato: Pelle - Edema 404 Acute Dermal Irritation/Corrosion

Specie: Coniglio

Punteggio: 1,0 - 1,5

Risultato: Pelle - Eritema/Escara 404 Acute Dermal Irritation/Corrosion

Specie: Coniglio

Punteggio: 0,7

Risultato: Pelle - Moderatamente irritante

Specie: Coniglio

Esposizione: 24 hrs

Risultato: Pelle - Fortemente irritante

Specie: Coniglio

Esposizione: 24 hrs

Risultato: occhi - Lieve irritante

Specie: Coniglio

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

Result: Skin - erythema / eschar 404 Acute Dermal Irritation / Corrosion

Species: rabbit

Score: 0.7

Exposure: 4 h

Observation: 72 h

Result: Skin - edema 404 Acute Dermal Irritation / Corrosion

Species: rabbit

Score: 0

Exposure: 4 h

Observation: 4-504 h

Result: eyes - corneal opacity 405 Acute Eye Irritation / corrosion

Species: Rabbit

Score: 0

Observation: 1 - 168 h

Result: eyes - Injury of the iris 405 Acute Eye Irritation / Corrosion

Species: Rabbit

Score: 0

Observation: 1 - 168 h

Result: eyes - Redness of the conjunctiva 405 Acute Eye Irritation / Corrosion

Species: rabbit

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 11. Toxicological information ... / >>**

Score: 0 Observation: 1 - 168 h

Result: eyes - conjunctiva edema 405 Acute Eye Irritation / Corrosion

Species: rabbit

Score: 0

Observation: 1 - 168 h

Result: Skin - Slight irritation

Species: rabbit

Exposure: 24 h

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

Result: Skin - Primary index of skin irritation (PDII) OTS 798.4450 Acute Dermal Irritation

Species: Rabbit

Score: 4.1

Exposure: 24 h

Observation: 72 h

Result: Skin - Primary Index of Skin Irritation (PDII) 404 Acute Dermal Irritation / Corrosion

Species: Rabbit

Score: 5.75

Exposure: 24 h

Observation: 72 h

Result: eyes - corneal opacity 405 Acute Eye Irritation / Corrosion

Species: Rabbit

Score: 2

Observation: 1 - 24 h

Species: Skin - Moderately irritating

Species: Rabbit

Exposure: 24 h

Phosphoric acid

Strongly corrosive on the skin and mucous membranes.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

Phosphoric acid

Strongly corrosive on the eyes.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

May produce an allergic reaction.

Contains:

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

Pelle: In uno studio con saggio LLNA su topi condotto secondo la norma OCSE n. 429, la EC3 stimata corrispondeva a una concentrazione del 5,7%; tale risultato suggerisce che BADGE è un sensibilizzante della pelle moderato in questo sistema di prova.

In uno studio di massimizzazione su cavia secondo norma OCSE n. 406, BADGE ha indotto una reazione cutanea positiva nel 100% degli animali da esperimento a una dose di stimolo con concentrazione del 50%. Pertanto, BADGE è un sensibilizzatore della pelle "estremo" nelle condizioni di questo studio. BADGE è risultato positivo per la sensibilizzazione della pelle anche in uno studio con il metodo Buehler su cavia condotto secondo norma OCSE n. 406.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

Species: rabbit

Test: OECD 405

Result: no eye irritation

Skin sensitization

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 11. Toxicological information ... / >>**

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

The Buehler method was used to assess the skin sensitization potential of the liquid epoxy BPFDE. Ten male guinea pigs were given 0.4 ml of the test substance topically once a week for three weeks. A positive control of BPFDE liquid epoxy resin was used on ten additional animals. The stimulation phase began two weeks later with the addition of 5 animals exposed to 0.4ml of liquid BPFDE liquid epoxy resin. The negative control had 0 positive reactions; BPFDE liquid epoxy resin produced positive reactions in 4 out of 10 guinea pigs and the positive control had 8 out of ten positive reactions. Under the conditions of this study, the test material resulted in delayed hypersensitivity in guinea pigs.

Route of exposure: skin

Species: mouse

Method: OECD 429

Result: can cause sensitization in contact with the skin

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

In a sensitization study with the Buehler method carried out according to the test specification OTS 870.2600 of the US EPA, positive skin reactions were observed in 20/20 guinea pigs. An extreme sensitizer in a study with maximization test on guinea pig conducted according to the OECD test specification No. 406.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

In diversi studi è risultato che BADGE induce mutazione genica in ceppi sperimentali Ames /Salmonella TA1535 e TA100. In generale, l'attività mutagena è stata maggiore senza attivazione metabolica S9 del fegato. Indotta mutazione genica in cellule di linfoma di topo L5178Y. Indotti mutazione genica e danno cromosomico in cellule di criceto cinese V79. Indotta trasformazione delle cellule in cellule BHK di criceto siriano sulla base della crescita clonale in agar sofficce.

Non ha indotto evidenze di danno cromosomico in uno studio con sonda per via orale in un test del dominante letale su topo condotto fino ad un livello elevato di dosaggio di 10 grammi/kg e in un test micronucleare su topo condotto fino ad una dose elevata di 5000 mg/kg. Negativo in un saggio citogenetico spermatocitico su topo maschio con trattamento per 5 giorni mediante sonda per via orale fino ad una dose elevata di 3000 mg/kg. Non ha indotto un aumento della frequenza di danni cromosomici in un saggio citogenetico su cellule del midollo osseo su criceto cinese mediante sonda per via orale fino ad una dose elevata di 3300 mg/kg. Non ha indotto un aumento di rotture dei filamenti del DNA in cellule di fegato di ratto dopo trattamento con sonda gastrica orale con 500 mg/kg, misurato attraverso l'eluizione alcalina.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

Bisphenol F diglycidyl ether induced a gene mutation in the Ames / Salmonella mutation test and chromosomal aberrations in human lymphocytes in multiple independent GLP studies conducted according to test guidelines. Furthermore, the structural analog, bisphenol A diglycidyl ether (BPADGE), induced a significant increase in the frequency of mutations in cultured L5178Y mouse lymphoma cells, supporting the other conclusions. Therefore, BPFDE is genotoxic in vitro. When the genotoxic potential of bisphenol F diglycidyl ether was evaluated in multiple GLP compliant in vivo tests, including mouse micronucleus tests, UDS in vivo / in vitro tests, and MutaMouse on rat, no evidence of genotoxicity was observed. Results from other in vivo genotoxicity tests also support these negative results for BPFDE. It is concluded that bisphenol F diglycidyl ether is not genotoxic in vivo.

In vitro genotoxicity:

Metabolic activation: with or without metabolic activation

Method: OECD 471

Result: positive

Metabolic activation: with or without metabolic activation

Method: OECD 473

Result: positive

Metabolic activation: with or without metabolic activation

Method: OECD 476

Result: positive

Genotoxicity in vivo:

Type of cell: germs

Method of application: oral

Result: negative

Type of cell: somatic

Method of application: oral

Dose: 0 - 5000 mg / kg

Result: negative

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 11. Toxicological information ... / >>**

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

Positive in a bacterial mutation test conducted according to the OECD test specification No. 471 in an experimental Salmonella TA1535 strain with and without metabolic activation with S9. Negative in a gene mutation test on Chinese hamster ovary cells (CHO) HGPRT conducted according to the OECD test specification No. 476 up to cytotoxic levels with and without metabolic activation with S9. Negative in a gene mutation assay on L5178Y / TK mouse lymphoma cells tested up to cytotoxic dose levels. Negative by micronucleus induction (chromosomal damage) in a mouse study conducted according to OECD specification No. 474 up to a high dose of intraperitoneal injection of 4.0 grams / kg. Negative in a study of chromosomal aberrations on rat bone marrow conducted similarly to the OECD test specification No. 475 by intraperitoneal injection, up to a high dose of about 700 mg / kg.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

In a study with an oral rat probe according to the OECD standard n. 453 there was no evidence of carcinogenicity up to the high dose level of 100 mg / kg / day. Dermal exposure studies were performed in male mice and female rats according to OECD regulation n. 453. No evidence of carcinogenicity was observed in male mice treated up to the high dose of 100 mg / kg / day and female rats exposed up to the high dose of 1000 mg / kg / day.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

È stata valutata la capacità del Bisfenolo F diglicidil etero (BPFDE) di indurre tumori locali e sistemici in uno studio di 24 mesi con test cutaneo ("skin painting") sul topo. Il trattamento cutaneo di topi per due volte alla settimana con una soluzione fino al 10% di diglicidil etero bisfenolo F (BPFDE) non ha indotto alcun risultato negativo di incidenza di tumori o effetti cutanei locali. Pertanto, il BPFDE non è da considerare cancerogeno per il topo nelle condizioni di questo studio. Il NOAEL è stato stimato pari a circa 800 mg/kg/die.

Specie: ratto, maschio e femmina

Modalità di applicazione: orale

Tempo di esposizione: 24 mesi

Dosi: 15 mg/kg

Frequenza del trattamento: 7 al giorno

Metodo: OECD 453

Risultato: negativo

Specie: topo, maschio

Modalità di applicazione: dermico

Tempo di esposizione: 24 mesi

Dosi: 1 mg/kg

Frequenza del trattamento: 3 al giorno

Metodo: OECD 453

Risultato: negativo

Specie: ratto, femmina

Modalità di applicazione: dermico

Tempo di esposizione: 24 mesi

Dosi: 1 mg/kg

Frequenza del trattamento: 5 al giorno

Metodo: OECD 453

Risultato: negativo

Phosphoric acid

Effetti CMR (cancerogeni, mutageni, tossici per la riproduzione)

Tossicità per la riproduzione

Tossicità dello sviluppo/teratogenicità

Saggio sulla tossicità riproduttiva a una generazione

Parametro : NOAEL(C)

Via di esposizione : Ratto

Dosi efficace : >= 500 mg/kg bw/day

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

BADGE did not induce any evidence of developmental toxicity in rats and rabbits exposed by oral probe, or in cutaneously treated rabbits, in BPL studies according to the OECD standard n. 414. Studies with an oral probe were conducted up to a high dose level of 180 mg / kg / day which produced maternal toxicity based on the reduction in body weight gain. The rabbit skin toxicity study was conducted up to a high dose of 300 mg / kg / day which induced maternal toxicity based on the reduction in body weight gain.

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 11. Toxicological information ... / >>**

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

The bisphenol A diglycidylether (DGEBA) has been tested for its embryo / fetal toxicity and teratogenicity in pregnant rabbits. The DGEBA was applied daily to the back (depilated) of white New Zealand rabbits at doses of 0 (polyethylene glycol, vehicle control), 30, 100 or 300 mg / kg of body weight / day at a volumetric dose of 1 ml / kg of body weight / day on days 6 to 18 of gestation. Twenty-six inseminated rabbits were used per dosage group, obtaining a minimum of 20 pregnant rabbits per exposure level. An occlusive bandage of absorbent gauze and non-absorbent cotton was placed on the dosing area on the back of each rabbit. The bandage was held in place for a minimum of 6 hours / day with a lycra / spandex protective cover. Following the period of occlusion the bandage and the protective wrapper were removed. Maternal toxicity effects were observed among pregnant rabbits in the 300 mg / kg dose group, as evidenced by moderate to severe erythema, fissures, haemorrhages and mild edema at the site of exposure. Similar, but less severe skin lesions were observed in pregnant rabbits in the 100 mg / kg / day exposure group. Effects on the skin (mild erythema) observed in pregnant rabbits in the 30 mg / kg / day group were not considered toxicologically significant. No evidence of embryo / fetotoxicity or teratogenicity was observed at any dose, which results in a level at which no effect (NOEL) is observed at an embryonic / fetal level of 300 mg / kg body weight / day.

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

In a dermal toxicological study conducted in the rat according to the US EPA OTS 798.4420 method and according to the OECD test specification No. 414, the NOAEL for adverse effects on both mother and development was above the high dose level of 200 mg / kg / day.

Adverse effects on sexual function and fertility

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

Species: rat, male and female

Method of application: oral

Method: OECD 416

Result: There was no effect on fertility and early embryonic development.

Adverse effects on development of the offspring

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

Species: rabbit, female

Method of application: dermal

General toxicity in mothers: no level of harmfulness

observed: 30 mg / kg body weight

Result: no teratogenic effect

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

NOAEL: 250 mg / kg

Species: rat, male and female

Method of application: ingestion

Exposure time: 13 weeks

Number of exposures: 7 d

Mode: subchronic toxicity

Phosphoric acid

Toxicity after repeated use (subacute, subchronic, chronic)

Subacute oral toxicity

Parameter: NOAEL (C)

Route of exposure: Oral route

Species: Rat

Effective dose: 250 mg / kg

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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.

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 12. Ecological information ... / >>**

Phosphoric acid

Use according to good working practices, avoiding to disperse the product in the environment.

12.1. Toxicity

Anacardi guscio di noce di liquori

LC50 10 - 100 mg / L (96 h) Fish

EC50 10 - 100 mg / L Crustacean

EC50 10 - 100 mg / L Alga

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

EC50 (Selenastrum capricornutum): 1.8 mg / l

Exposure time: 72 h

Static test

Method: OECD 201

Cl50 (activated sludge)> 100 mg / l

Exposure time: 3 h

Static test

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

LC50, 96 hour:> 5000 mg / l, Oncorhynchus mykiss (rainbow trout)

LC50, 96 hour: 1800 mg / l, Lepomis macrochirus (Perch)

EC50, 72 hours: 843 mg / l, Pseudokirchneriella subcapitata

NOEC, 72 hours: 500 mg / l, Pseudokirchneriella subcapitata

EC50, 3 hours:> 100 mg / l, Activated sludge

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

LC50 - for Fish 2,54 mg/l/96h Fish

EC50 - for Crustacea 2,55 mg/l/48h 202 Daphnia sp. Acute Immobilization Test and Reproduction Test

EC50 - for Algae / Aquatic Plants > 1000 mg/l/72h 201 Alga, Growth Inhibition Test

Chronic NOEC for Crustacea 0,3 mg/l Daphnia magna, 21 d, OECD 211 semistatic

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

LC50 - for Fish > 5 g/l 203 Fish, Acute Toxicity Test. Bluegill

EC50 - for Crustacea 7,2 mg/l/48h 202 Daphnia sp. Acute Immobilization Test and Reproduction Test

EC50 - for Algae / Aquatic Plants 844 mg/l/72h 201 Alga, Growth Inhibition Test

Phosphoric acid

EC50 - for Crustacea > 100 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants > 100 mg/l/72h Desmodesmus subspicatus

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

LC50 - for Fish 1,3 mg/l/96h 203 Fish

EC50 - for Crustacea 2,1 mg/l/48h 202 Daphnia sp. Acute Immobilization Test and Reproduction Test

EC50 - for Algae / Aquatic Plants > 11 mg/l/72h

Chronic NOEC for Crustacea 0,3 mg/l/21d Prova semistatica 211 Daphnia Magna Reproduction Test

12.2. Persistence and degradability

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

The level of biodegradation in an "improved" OECD 301F study was 5% within the 28-day contact period. Biodegradation has reached 6 - 12% after 28 days of contact in a study conducted according to the OECD standard n. 301B. Therefore BADGE is not readily biodegradable under the conditions of the studies.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight <= 700)

Bisphenol F diglycidyl ether was not readily biodegradable under the conditions of the screening studies according to OECD test specifications Nos. 301 B and 301 D. The maximum rate of biodegradation observed in one of the OECD 301 B studies was 16% per 10 mg / the 28 days of contact.

Inoculum: activated sludge

Concentration: 3 mg / l

Result: not biodegradable

Biodegradation: approx. 0%

Exposure time: 28 d

Method: Directive 67/548 / EEC Annex V C.4.E

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 12. Ecological information ... / >>**

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

In a study conducted according to OECD Test Specification No. 301 F, biodegradation was 57-655 after 7 days. However, in a study conducted according to OECD Test Specification No. 301 D (unopened bottle) biodegradation was only 34.7% after 28 days.

87% degradation: 28 days OECD 301F

Phosphoric acid

The substance is inorganic, therefore biodegradability tests are not applicable.

The phosphoric acid dissociates in water in the H_3O^+ , $H_2PO_4^-$, HPO_4^{--} ions, which can be further degraded.

12.3. Bioaccumulative potential

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

BCF: 150 150.00

Potential: low

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

BCF: 160 - 263 160.00

Potential: low

Phosphoric acid

Does not bioaccumulate

Phosphoric acid dissociates in water from the H_3O^+ , $H_2PO_4^-$, HPO_4^{--} ions, which are present in the environment. Phosphoric acid is absorbed in the form of phosphate anions.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

Partition coefficient: n-octanol/water 2,7 Log Kow

BCF 150

Oxirane, mono [(C12-14- alkyloxy) methyl] derivatives

Partition coefficient: n-octanol/water 3,77 Log Kow

2,2-bis- [4- (2,3-epoxypropoxy) phenyl] -propane

Partition coefficient: n-octanol/water $> 2,64 < 3,78$

BCF $> 3 < 31$ 31,00

12.4. Mobility in soil

Phosphoric acid

This substance is highly soluble and dissociates in water.

Reaction product: bisphenol-F-epichlorohydrin and epoxy resins (average molecular weight ≤ 700)

Partition coefficient: soil/water 4460 OECD 121

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. 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.

CONTAMINATED PACKAGING

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

DRAP251 - EPOJOINT GRIGIO componente A**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

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

14.7. Transport in bulk according to Annex II of Marpol 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 - Directive 2012/18/EC: None

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

Product

Point 3 - 40

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 (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

DRAP251 - EPOJOINT GRIGIO componente A**SECTION 15. Regulatory information ... / >>**

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 been performed for the following contained substances
Phosphoric acid

SECTION 16. Other information

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

Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H312	Harmful in contact with skin.
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.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament

DRAP251 - EPOJOINT GRIGIO componente A

2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 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)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
16. Regulation (EU) 2019/521 (XII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Regulation (EU) 2020/217 (XIV Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- 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.