

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: **159**
Product name: **W3 IMPERMEABILIZZANTE (A)**
UFI: **JTA2-J004-K00M-0D3S**

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

Intended use: **Three-component epoxy skim**

1.3. Details of the supplier of the safety data sheet

Name: **NORD RESINE S.p.A.**
Full address: **Via Fornace Vecchia, 79**
District and Country: **31058 Susegana (TV) Italia**
Tel.: **+39 0438-437511**
Fax: **+39 0438-435155**

e-mail address of the competent person responsible for the Safety Data Sheet: **annabreda@nordresine.com**

Supplier: **NORD RESINE S.p.A.**

1.4. Emergency telephone number

For urgent inquiries refer to:

Ireland
National Poisons Information Centre
+353 018092166
+353 018092566

Malta
Malta Competition and Consumer Affairs Authority (MCCAA)
+356 2395 2000

Belgium
Centre Antipoisons: +32 022649636

Germany
BfR Bundesinstitut für Risikobewertung: +49 30184120

Netherlands
National Poisons Information Center / University Medical Center Utrecht
+31 88 75 585 61

Croatia
Croatian Institute of Public Health, Division for Toxicology: +38514686910

Sveden
Swedish Poisons Information Centre: +46104566750

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.

SECTION 2. Hazards identification ... / >>

Hazard classification and indication:

Reproductive toxicity, category 1B	H360F	May damage fertility.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
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: **Danger**

Hazard statements:

H360F	May damage fertility.
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.

Precautionary statements:

P201	Obtain special instructions before use.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P308+P313	IF exposed or concerned: Get medical advice / attention.
P273	Avoid release to the environment.
P391	Collect spillage.
P261	Avoid breathing dust.

Contains:

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)
Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and
[2-{{2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl}oxirane and
[2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
MALEIC ANHYDRIDE

Product not intended for uses provided for by Directive 2004/42/EC.

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

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

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)		
INDEX	603-074-00-8 20 ≤ x < 25	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
EC	500-033-5	Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%
CAS	25068-38-6	
REACH Reg.	01-2119456619-26	
Reaction mass of 2,2'-(methylenebis(4,1-phenyleneoxymethylene))dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-(methylenebis(2,1-phenyleneoxymethylene))dioxirane		
INDEX	701-263-0 7 ≤ x < 10	Skin Irrit. 2 H315, Skin Sens. 1A H317, Aquatic Chronic 2 H411
EC	701-263-0	
CAS		
REACH Reg.	01-2119454392-40	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.		
INDEX	603-103-00-4 3 ≤ x < 5	Repr. 1B H360F, Skin Irrit. 2 H315, Skin Sens. 1 H317
EC	271-846-8	
CAS	68609-97-2	
REACH Reg.	01-2119485289-22	
4-HYDROXY-4-METHYLPENTAN-2-ONE		
INDEX	603-016-00-1 1 ≤ x < 3	Repr. 2 H361d, Eye Irrit. 2 H319, STOT SE 3 H335
EC	204-626-7	
CAS	123-42-2	
REACH Reg.	01-2119473975-21	
MALEIC ANHYDRIDE		
INDEX	607-096-00-9 0 < x < 0,001	Acute Tox. 4 H302, STOT RE 1 H372, Skin Corr. 1B H314, Eye Dam. 1 H318, Resp. Sens. 1 H334, Skin Sens. 1A H317, EUH071
EC	203-571-6	Skin Sens. 1A H317: ≥ 0,001%
CAS	108-31-6	LD50 Oral: 1090 mg/kg
REACH Reg.	01-2119472428-31	

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. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. 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.

SECTION 4. First aid measures ... / >>

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

IF exposed or concerned: Get medical advice / attention.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment: see section 4.1

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.

SECTION 7. Handling and storage ... / >>

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:

Country	Language	Regulatory Reference
CZE	Česká Republika	NAŘIZENÍ VLÁDY ze dne 18. října 2023, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
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 France Décret 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 védelmére
HRV	Hrvatska	PRAVILNIK O IZMJENAMA I DOPUNAMA PRAVILNIKA O ZAŠTITI RADNIKA OD IZLOŽENOSTI OPASNIM KEMIKALIJAMA NA RADU, GRANIČNIM VRIJEDNOSTIMA IZLOŽENOSTI I BIOLOŠKIM GRANIČNIM VRIJEDNOSTIMA
NLD	Nederland	Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei 2024, nr. 2024-0000092805, tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2022/431
POL	Polska	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
ROU	România	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
RUS	Россия	ПОСТАНОВЛЕНИЕ от 13 февраля 2018 г. N 25 ОБ УТВЕРЖДЕНИИ ГИГИЕНИЧЕСКИХ НОРМАТИВОВ ГН 2.2.5.3532-18 "ПРЕДЕЛЬНО ДОПУСТИМЫЕ КОНЦЕНТРАЦИИ (ПДК) ВРЕДНЫХ ВЕЩЕСТВ В ВОЗДУХЕ РАБОЧЕЙ ЗОНЫ"
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim, mutagenim ali reprotoksičnim snovem pri delu. Ljubljana, četrtek 4. 4. 2024
GBR	United Kingdom ACGIH	EH40/2005 Workplace exposure limits (Fourth Edition 2020) ACGIH 2025

REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,006	mg/l
Normal value in marine water	0,0006	mg/l
Normal value for fresh water sediment	0,996	mg/kg
Normal value for marine water sediment	0,0996	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Effects on workers					
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral			VND	0,75 mg/kg/d				
Inhalation							VND	12,25 mg/m3
Skin			VND	3,571 mg/kg/d			VND	8,33 mg/kg

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

MALEIC ANHYDRIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1		2		
AGW	DEU	0,081	0,02	0,081	0,02	11
MAK	DEU	0,081	0,02	0,081 (C)	0,02 (C)	C = 0,20 mg/m3
VLA	ESP	0,4	0,1			
VLEP	FRA			1		
TLV	GRC	1				
AK	HUN	0,08	0,2	0,08	0,2	
GVI/KGVI	HRV	0,41	0,1	0,8	0,2	INHAL
GVI/KGVI	HRV	0,41	0,1	0,8	0,2	SKIN
NDS/NDSch	POL	0,5		1		SKIN
TLV	ROU	1	0,25	3	0,75	
ПДК	RUS			1		n + a, A
MV	SVN	0,41	0,1	0,41	0,1	
WEL	GBR	1		3		
ACGIH		0,01	0,0025			INHAL

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,038	mg/l
Normal value in marine water	0,004	mg/l
Normal value for fresh water sediment	0,296	mg/kg/d
Normal value for marine water sediment	0,03	mg/kg/d
Normal value of STP microorganisms	44,6	mg/l
Normal value for the terrestrial compartment	0,037	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation					0,2 mg/m3	0,2 mg/m3	0,081 mg/m3	0,081 mg/m3

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0072	mg/l
Normal value in marine water	0,00072	mg/l
Normal value for fresh water sediment	66,77	mg/kg
Normal value for marine water sediment	6,677	mg/kg
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	80,12	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		1,219 mg/kg bw/d		1 mg/kg bw/d				
Inhalation	2,9 mg/m3	7,6 mg/m3	1,46 mg/m3	4,1 mg/m3	9,8 mg/m3	29 mg/m3	0,98 mg/m3	13,8 mg/m3
Skin	40 mg/kg bw/d	10 mg/kg bw/d	1 mg/kg bw/d	2,35 mg/kg bw/d	68 mg/kg bw/d	17 mg/kg bw/d	1,7 mg/kg bw/d	3,9 mg/kg bw/d

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

4-HYDROXY-4-METHYLPENTAN-2-ONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
TLV	CZE	200		300		
AGW	DEU	96	20	192	40	SKIN
MAK	DEU	96	20	192	40	SKIN
VLA	ESP	241	50			
VLEP	FRA	240	50			
TLV	GRC	240	50	360	75	
GVI/KGVI	HRV	241	50	362	75	
TGG	NLD	120				SKIN
NDS/NDSch	POL	240				
TLV	ROU	150	32	250	53	
MV	SVN	240	50			SKIN
WEL	GBR	241	50	362	75	
ACGIH		238	50			

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,003	mg/l
Normal value for fresh water sediment	0,294	mg/kg
Normal value for marine water sediment	0,029	mg/kg
Normal value for water, intermittent release	0,025	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,237	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				6,25 mg/kg bw/d				
Inhalation				8,7 mg/m ³				29,39 mg/m ³
Skin				62,5 mg/kg bw/d	0,0083 mg/cm ²			104,15 mg/kg bw/d

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.

Protect your hands with gloves of the following type:

Material: Nitrile rubber (NBR)

Thickness: 0,35 mm

Breakthrough time: 480 min

Material: Butyl rubber (IIR)

Thickness: 0,5 mm

Breakthrough time: 480 min

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash

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

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 A 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	liquid	
Colour	white	
Odour	characteristic	
Melting point / freezing point	not determined	Reason for missing data: not determined
Initial boiling point	100 °C	Substance: WATER Initial boiling point: 100 °C
Flammability	not determined	Reason for missing data: not determined
Lower explosive limit	not determined	Reason for missing data: not determined
Upper explosive limit	not determined	Reason for missing data: not determined
Flash point	> 170 °C	
Auto-ignition temperature	not determined	Reason for missing data: not determined
Decomposition temperature	not determined	Reason for missing data: not determined
pH	7-8	
Kinematic viscosity	not determined	Reason for missing data: not determined
Solubility	partially soluble in water	
Partition coefficient: n-octanol/water	not applicable	
Vapour pressure	not determined	
Density and/or relative density	1,36 kg/l	Method: EN ISO 1675 Temperature: 23 °C
Relative vapour density	not determined	Reason for missing data: not determined
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

VOC (Directive 2010/75/EU)	1,00 % - 13,60	g/litre
VOC (volatile carbon)	0,62 % - 8,43	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.

4-HYDROXY-4-METHYLPENTAN-2-ONE

Decomposes at temperatures above 90°C/194°F.

10.2. Chemical stability

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

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.

4-HYDROXY-4-METHYLPENTAN-2-ONE

Risk of explosion on contact with: air, sources of heat. May react dangerously with: alkaline metals, amines, oxidising agents, acids.

10.4. Conditions to avoid

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

4-HYDROXY-4-METHYLPENTAN-2-ONE

Avoid exposure to: light, sources of heat, naked flames.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

Information not available

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

4-HYDROXY-4-METHYLPENTAN-2-ONE

WORKERS: inhalation; contact with the skin.

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

4-HYDROXY-4-METHYLPENTAN-2-ONE

Acute toxicity causes irritation of the eyes, nose and throat in humans at 100 ppm (476 mg/kg) and pulmonary disorders at 400 ppm. No chronic effects on humans have been reported. The substance may have a depressive effect on the respiratory centres and cause death from respiratory failure.

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)

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane

LD50 (Dermal):	> 2000 mg/kg Rat
LD50 (Oral):	> 5000 mg/kg Rat

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	
LD50 (Dermal):	> 10000 mg/kg Rat

SECTION 11. Toxicological information ... / >>

4-HYDROXY-4-METHYLPENTAN-2-ONE
 LD50 (Oral): 4000 mg/kg Rat

MALEIC ANHYDRIDE
 LD50 (Dermal): 2620 mg/kg Rabbit
 LD50 (Oral): 1090 mg/kg Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
 The skin irritation of bisphenol F diglycidyl ether was determined to be mild to non-irritating based on the six Klimisch 1 and 2 studies conducted according to OECD guidelines.
 In the experimental conditions used, only one product induced erythema and edema reactions above the significance threshold (score 2 for erythema or edema) and was classified as irritant according to EEC directive no. 83/467/1983. The other studies indicated mild irritation, but not sufficient to reach the classification threshold.
 Two repeated dose cumulative irritation studies were performed and under the experimental conditions employed the test materials induced significant irritation after repeated application and a potential for cumulative skin irritation was found in albino rabbits.
 Effects on skin irritation/corrosion: slightly irritating.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
 The ocular irritation of bisphenol F diglycidyl ether was determined to be non-irritating based on the four Klimisch 1 and 2 studies conducted according to OECD guidelines. In rabbit eye irritation tests, 0.1 ml of the test material caused no irritation and no initial pain response.

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

MALEIC ANHYDRIDE
 Species: rabbit
 Result: skin sensitization
 Method: OECD 406

Skin sensitization

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane
 Bisphenol F diglycidyl ether (BPFDE) tested positive for induction of skin sensitization in the mouse Local Lymph Node Assay (LLNA). Based on an EC3 value of 0.7%, BPFDE is considered a strong skin sensitizer. According to ECHA guidelines, this EC3 value was converted to an EC3 value of 175 ug/cm2 and is considered the LOAEL for the induction of skin sensitization in the LLNA mouse for BPFDE. From sensitization tests it can be concluded that BPFDE is a sensitizer.

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

May damage fertility

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

SECTION 11. Toxicological information ... / >>

Target organs

MALEIC ANHYDRIDE
Respiratory tract.
LOAEC: 0.01 mg/l
Species: rat
Method: Oecd 412
Source: Echa

Route of exposure

MALEIC ANHYDRIDE
Inhalation

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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.

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

REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)

LC50 - for Fish 1,5 mg/l/96h Fish

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and

[2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane

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

EC50 - for Crustacea 2,55 mg/l/48h Daphnia Magna

EC50 - for Algae / Aquatic Plants 1,8 mg/l/72h

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

LC50 - for Fish > 5000 mg/l/96h Rainbow trout

4-HYDROXY-4-METHYLPENTAN-2-ONE

LC50 - for Fish > 100 mg/l/96h Oryzia latipes

EC50 - for Crustacea > 1000 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants > 1000 mg/l/72h Pseudokirchneriella subcapitata

MALEIC ANHYDRIDE

LC50 - for Fish 75 mg/l/96h Oncorhynchus mykiss

EC50 - for Crustacea 42,81 mg/l/48h Daphnia magna

EC50 - for Algae / Aquatic Plants 74,35 mg/l/72h Pseudokirchneriella subcapitata

Chronic NOEC for Crustacea 10 mg/l Daphnia magna

12.2. Persistence and degradability

REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)

Solubility in water 0,1 - 100 mg/l

NOT rapidly degradable

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Solubility in water 0,483 mg/l

4-HYDROXY-4-METHYLPENTAN-2-ONE

Solubility in water 1000 - 10000 mg/l

Rapidly degradable

SECTION 12. Ecological information ... / >>

MALEIC ANHYDRIDE
 Solubility in water > 10000 mg/l
 Inherently degradable

12.3. Bioaccumulative potential

REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)
 Partition coefficient: n-octanol/water > 2,918
 BCF 31

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
 Partition coefficient: n-octanol/water 6 Log Kow
 BCF 263

4-HYDROXY-4-METHYLPENTAN-2-ONE
 Partition coefficient: n-octanol/water -0,09

MALEIC ANHYDRIDE
 Partition coefficient: n-octanol/water -2,78

12.4. Mobility in soil

REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN)
 Partition coefficient: soil/water 2,65

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.
 Waste transportation may be subject to ADR restrictions.
 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

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 3082

ADR / RID: In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity \leq 5Kg or 5L, is not submitted to ADR provisions.

IMDG: In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity \leq 5Kg or 5L, is not submitted to IMDG Code provisions.

IATA: In accordance with SP A197, this product, when is packed in receptacles of a capacity \leq 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

SECTION 14. Transport information ... / >>

14.2. UN proper shipping name

ADR / RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN); Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl]oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN); Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl]oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL A-(EPICHLORHYDRIN); Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl]oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane)

14.3. Transport hazard class(es)

ADR / RID: Class: 9 Label: 9

IMDG: Class: 9 Label: 9

IATA: Class: 9 Label: 9



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous

IMDG: Marine Pollutant

IATA: Environmentally Hazardous



14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 lt	Tunnel restriction code: (-)
	Special provision: 274, 335, 375, 601, 650		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 lt	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Passengers:	Maximum quantity: 450 L	Packaging instructions: 964
	Special provision:	A97, A158, A197, A215	

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

SECTION 15. Regulatory information ... / >>

<u>Product</u>	
Point	3
<u>Contained substance</u>	
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:

Repr. 1B	Reproductive toxicity, category 1B
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
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
H360F	May damage fertility.
H361d	Suspected of damaging the unborn child.
H302	Harmful if swallowed.
H372	Causes damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
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

SECTION 16. Other information ... / >>

- 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

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
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
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10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
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16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
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22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
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- The Merck Index. - 10th Edition
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- 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.

SECTION 16. Other information ... / >>

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.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 08 / 11 / 12 / 14 / 16.