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# **Safety Data Sheet**

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

#### 1.1. Product identifier

Product name

UFI:

BITUMASTIC

WPE0-R02J-U004-04MP

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

Intended use

Special Type of Asphalt Mastic.

#### 1.3. Details of the supplier of the safety data sheet NORDIA S.A. 364 Kifisias Av.

15233 Chalandri - Greece Phone: +30 22950 22225 - Fax: +30 22950 22120 info@marmoline.gr www.marmoline.gr

#### 1.4. Emergency telephone number

For urgent inquiries refer to

(0030) 2105589400 (0030) 2107793777

## **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:		
Flammable liquid, category 3	H226	Flammable liquid and vapour.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
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:



Signal words:

Warning

Hazard statements: H226 H373

Flammable liquid and vapour. May cause damage to organs through prolonged or repeated exposure.

@EPY 11.1.2 - SDS 1004.14



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#### SE

ECTION 2. Haza	ards identification / >>
H319	Causes serious eve irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
Precautionary sta	atements:
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P405	Store locked up.
P501	Dispose of contents / container in accordance with local and national regulations.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Contains: Reaction mass of ethylbenzene and m-xylene and p-xylene

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  $\ge 0.1\%$ .

# **SECTION 3. Composition/information on ingredients**

#### 3.2. Mixtures

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
Reaction mas	s of ethylbenzene and m-xylene	and p-xylene
CAS	35 ≤ x < 40	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note according to Annex VI to the CLP Regulation: C
EC INDEX	905-562-9	STA Dermal: 1100 mg/kg, LC50 Inhalation vapours: >10 mg/l/4h
REACH Reg.	01-2119488216-32-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. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

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

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

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

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

ΕN

# **SECTION 5. Firefighting measures**

#### 5.1. Extinguishing media

#### SUITABLE EXTINGUISHING EQUIPMENT

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

UNSUITABLE EXTINGUISHING EQUIPMENT

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

#### 5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

#### 5.3. Advice for firefighters

#### GENERAL INFORMATION

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

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

## **SECTION 6. Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

#### Block the leakage if there is no hazard.

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

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

#### 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

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

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

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

## 7.3. Specific end use(s)

Information not available

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# **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.5 от 17 Януари 2020г.)
CZE	Česká Republika	Nařízení vlády č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
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 μεταλλαξιγόνους 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 opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
SVK	Slovensko	NARIADĚNIE VLÁDY Slovenskej republiky z 12. augusta 2020, ktorým sa mení a dopĺňa nariadenie vlády Slovenskej republiky č. 356/2006 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou karcinogénnym a mutagénnym faktorom pri práci v znení neskorších predpisov
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
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 2021

Reaction mass of ethylbenzene and m-xylene and p-xylene

Threshold Lim	it Value								
Туре	Countr	y TWA/8	3h	STEL/15	imin	Remarks / O	bservations		
		mg/m3	3 ppm	mg/m3	ppm				
TLV	BGR	221		442		SKIN			
TLV	CZE	200		400		SKIN			
AGW	DEU	440	100	880	200	SKIN			
MAK	DEU	440	100	880	200	SKIN			
VLEP	FRA	221	50	442	100	SKIN			
TLV	GRC	435	100	650	150	SKIN			
AK	HUN	221		442		SKIN			
GVI/KGVI	HRV	221	50	442	100	SKIN			
NPEL	SVK	221	50	442		SKIN			
WEL	GBR	220	50	441	100				
OEL	EU	221	50	442	100	SKIN			
TLV-ACGIH		434	100	651	150				
Health - Derive	ed no-effect	level - DNE	L/DMEL						
	I	Effects on co	nsumers			Effects on wor	kers		
Route of exp	osure /	Acute	Acute	Chronic	Chronic	Acute local	Acute	Chronic	Chronic
		local	systemic	local	systemic		systemic	local	systemic

noute of exposure	/ iouio	ricute	Onionic	Onionic	/ touto local	/ icuto	Onionic	Onionic
	local	systemic	local	systemic		systemic	local	systemic
Oral			VND	1,6				
				mg/kg/d				
Inhalation	174	174	VND	14,8	289	289	VND	77
	mg/m3	mg/m3		mg/m3	mg/m3	mg/m3		mg/m3
Skin			VND	108			VND	180
				mg/kg/d				mg/kg/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.

#### 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.



NORDIA S.A.

# BITUMASTIC

ΕN

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

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.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

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.

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

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

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

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

Information

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
Appearance	paste
Colour	black
Odour	characteristic
Odour threshold	Not determined
Melting point / freezing point	Not available
Initial boiling point	Not available
Flammability	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Flash point	23 ≤ T ≤ 60 °C
Auto-ignition temperature	Not available
рН	Not available
Kinematic viscosity	Not available
Solubility	insoluble in water
Partition coefficient: n-octanol/water	> 0,6 (άσφαλτος)
Vapour pressure	Not available
Density and/or relative density	0,98-1,02 g/ml
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

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# **SECTION 10. Stability and reactivity**

#### 10.1. Reactivity

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

#### 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.

#### 10.4. Conditions to avoid

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

#### 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

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 - vapours) of the mixture:	
ATE (Oral) of the mixture:	
ATE (Dermal) of the mixture:	

> 20 mg/l Not classified (no significant component) >2000 mg/kg

Reaction mass of ethylbenzene and m-x	ylene and p-xylene
STA (Dermal):	1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP
	(figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral):	> 2000 mg/kg Rat
LC50 (Inhalation vapours):	> 10 mg/l/4h Rat

LC50 (Inhalation vapours):

SKIN CORROSION / IRRITATION

Causes skin irritation



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SECTION 11. Toxicological information .../>>

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

Respiratory sensitization

Information not available

Skin sensitization

Information not available

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** 

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

May cause respiratory irritation

Target organs

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

May cause damage to organs

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards



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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 the aquatic organisms. In the long term, it have negative effects on aquatic environment.

#### 12.1. Toxicity

Reaction mass of ethylbenzene and m-xylene and p-xylene > 1 mg/l/96h LC50 - for Fish > 1 mg/l/48h EC50 - for Crustacea EC50 - for Algae / Aquatic Plants > 1 mg/l/72h Chronic NOEC for Fish Chronic NOEC for Crustacea > 0.1 mg/l

# > 1 mg/l based on test data

#### 12.2. Persistence and degradability

Reaction mass of ethylbenzene and m-xylene and p-xylene Rapidly degradable

#### 12.3. Bioaccumulative potential

Reaction mass of ethylbenzene and m-xylene and p-xylene Partition coefficient: n-octanol/water 3 12

#### 12.4. Mobility in soil

Information not available

#### 12.5. Results of PBT and vPvB assessment

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

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: 1263

#### 14.2. UN proper shipping name

ADR / RID:	PAINT RELATED MATERIAL
IMDG:	PAINT RELATED MATERIAL
IATA:	PAINT RELATED MATERIAL

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# SECTION 14. Transport information ... / >>

14.3. Transport hazard class(es)				
ADR / RID:	Class: 3	Label: 3		
IMDG:	Class: 3	Label: 3		
IATA:	Class: 3	Label: 3		



#### 14.4. Packing group

ADR / RID, IMDG, IATA: Ш

#### 14.5. Environmental hazards

ADR / RID:	NO
IMDG:	NO
IATA:	NO

#### 14.6. Special precautions for user

ADR / RID: HIN - Kemler: 30 Limited Quantities: 5 L Tunnel restriction code: (D/E) Special provision: 163, 367, 650 IMDG: EMS: F-E, S-E Limited Quantities: 5 L IATA: Packaging instructions: 366 Cargo: Maximum quantity: 220 L Maximum quantity: 60 L Packaging instructions: 355 Pass .: Special provision: A3, A72, A192

#### 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:

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006 Product Point 3 - 40

P5c

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.



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# SECTION 15. Regulatory information ... / >>

#### 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:

Flam. Liq. 3 Acute Tox. 4 Asp. Tox. 1 STOT RE 2 Eye Irrit. 2 Skin Irrit. 2 STOT SE 3 Aquatic Chronic 3 H226 H312 H332 H304 H373 H319 H315 H335	<ul> <li>Flammable liquid, category 3</li> <li>Acute toxicity, category 4</li> <li>Aspiration hazard, category 1</li> <li>Specific target organ toxicity - repeated exposure, category 2</li> <li>Eye irritation, category 2</li> <li>Skin irritation, category 2</li> <li>Specific target organ toxicity - single exposure, category 3</li> <li>Hazardous to the aquatic environment, chronic toxicity, category 3</li> <li>Flammable liquid and vapour.</li> <li>Harmful in contact with skin.</li> <li>Harmful if inhaled.</li> <li>May be fatal if swallowed and enters airways.</li> <li>May cause damage to organs through prolonged or repeated exposure.</li> <li>Causes skin irritation.</li> <li>Causes skin irritation.</li> <li>May cause respiratory irritation.</li> </ul>
H335 H412	May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

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 as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- 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 as for REACH Regulation
- 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
- 8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
- 9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament



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#### SECTION 16. Other information ... / >>

- 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) 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)
- 19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
- 20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
- 21. Delegated Regulation (UE) 2021/849 (XVII 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.

Changes to previous review:

The following sections were modified: 02.