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NAUTILUS Poly Mark III WHITE
component **B**

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

1.1. Product identifier

Name **NAUTILUS Poly Mark III WHITE** component **B**

UFI: **AE80-J025-700J-G2M5**

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

HARDENER FOR POLYURETHANE ENAMEL

Identified Uses	Industrial	Professional	Consumption
painting	PROC: 10, 11, 7. PC: 9a. LCS: PW.	PROC: 10, 11, 7. PC: 9a. LCS: PW.	PROC: 10, 11, 7. PC: 9a. LCS: PW.

Uses Not Recommended

No further information available

1.3. Information about the supplier of the safety data sheet

Business name **CECCHI GUSTAVO & C. Srl**
Address **Via M. Coppino, 253**
Locality and State **55049 Viareggio (LU)**
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tel. +390584 383694

email of the competent person responsible
for the safety data sheet **info@cecchi.it**

1.4. Emergency telephone number

For urgent information please contact **+ 39 0584 383694 from 8:30am to 12:30 and from 2pm to 18pm, from Monday to Friday Hospital.**
Niguarda Ca Granda Milan Piazza Ospedale Maggiore 3 tel +39 02-66101029
Az Osp Papa Giovanni XXIII Bergamo Piazza OMS 1 tel +39 800883300
Az Osp Careggi UO Medical Toxicology Florence Largo Brambilla 3 tel +39 055 7947819
Az Osp A.Cardarelli Naples via A.Cardarelli 9 tel +39 081 7472870
Az Osp Univ Foggia Viale Luigi Pinto 1 tel +39 0881 732326
CAV Policlinico Umberto I Rome viale del Policlinico 155 tel +39 06 49978000 CAV
Pediatric Osp Bambino Gesù Rome Piazza Sant''Onofrio 1 tel +39 06 68593726 CAV
Policlinico A Gemelli Rome Largo Agostino Gemelli 8 tel +39 06 3054343
CAV National Toxicological Information Center Pavia Via S Maugieri 10 tel +39 0382 24444

CAV Verona Borgo Trento Hospital Piazzale Aristide Steefani 1 tel +39 800011858

SECTION 2. Hazard Identification

2.1. Substance or mixture classification

The product is classified as dangerous pursuant to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adjustments). The product therefore requires a safety data sheet compliant with the provisions of Regulation (EU) 2020/878.
Any additional information regarding risks to health and/or the environment is reported in the sections. 11 and 12 of this sheet.

Hazard classification and indications:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - single exposure, category 3	H335	May irritate the respiratory tract.
Skin sensitization, category 1	H317	May cause an allergic skin reaction. May cause
Specific target organ toxicity - single exposure, category 3	H336	drowsiness or dizziness.

2.2. Label elements

Hazard labeling pursuant to Regulation (EC) 1272/2008 (CLP) and subsequent amendments and adjustments.

Hazard pictograms:

Warnings: Attention

Hazard Statements:

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H335	May irritate the respiratory tract.
H317	May cause an allergic skin reaction. May cause
H336	drowsiness or dizziness.
EUH066	Repeated exposure may cause dryness and cracking of the skin.

Precautionary advice:

P501	Dispose of the product or container in accordance with the Consolidated Environmental Law
P102	152/2006. Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames or other sources of ignition. Not smoking. Wear
P280	protective gloves/clothing and protect your eyes/face.
P271	Use only outdoors or in a well-ventilated place.
P101	If you consult a doctor, have the product container or label available.

Contains: POLY(HEXAMETHYLENE DIISOCYANATE) N-BUTYL ACETATE

1-METHYL-2-METHOXYETHYL ISOPROPYL

ACETATE

HEXAMETHYLENE-1,6-DIISOCYANATE

VOC (Directive 2004/42/EC):

High performance two-component paints.

VOC expressed in g/liter of ready-to-use product:	352.70
Maximum limit:	500.00

2.3. Other dangers

Based on available data, the product does not contain PBT or vPvB substances in percentages ≥ 0.1%.

The product does not contain substances with properties that interfere with the endocrine system in concentrations ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	Conc. %	Classification 1272/2008 (CLP)
POLY (HEXAMETHYLEN DIISOCYANATE) INDEX - CE 500-060-2 CAS 28182-81-2	73,933	Acute Tox. 4 H332, STOT SE 3 H335, Skin Sens. 1 H317 STA Inhalation of mists/dusts: 1.5 mg/l
N-BUTYL ACETATE INDEX 607-025-00-1 CE 204-658-1 CAS 123-86-4 REACH Reg 01-2119485493-29	16	Flam. Liq. 3 H226, STOT SE 3 H336, EUH066
1-METHYL-2- ACETATE METHOXYETHYL INDEX 607-195-00-7 CE 203-603-9 CAS 108-65-6 REACH Reg 01-2119475791-29-xxxx	8	Flam. Liq. 3 H226, STOT SE 3 H336
ISOPROPYL ACETATE INDEX 607-024-00-6 CE 203-561-1 CAS 108-21-4	2	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066, Classification note according to Annex VI of the CLP Regulation: C
HEXAMETHYLENE-1,6-DIISOCYANATE INDEX 615-011-00-1 CE 212-485-8 CAS 822-06-0	0.067	Acute Tox. 1 H330, Acute Tox. 4 H302, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Classification note according to Annex VI of the CLP Regulation: 2 Skin Sens. 1 H317: ≥ 0.5%, Resp. Sens. 1 H334: ≥ 0.5% ATE Oral: 500 mg/kg, LC50 Inhalation vapors: 0.124 mg/l/4h

The complete text of the hazard indications (H) is shown in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove any contact lenses. Wash immediately and abundantly with water for at least 15 minutes, opening the eyelids wide. Consult a doctor if the problem persists.
SKIN: Take off contaminated clothing. Wash immediately and abundantly with water. If irritation persists, consult a doctor. Wash the contaminated garments before reusing them.
INHALATION: Move the subject to fresh air. If breathing is difficult, call a doctor immediately.
INGESTION: Consult a doctor immediately. Induce vomiting only when advised by your doctor. Do not administer anything orally if the subject is unconscious and unless authorized by the doctor.

4.2. Main symptoms and effects, both acute and delayed

There is no specific information on the symptoms and effects caused by the product.

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

Information not available

SECTION 5. Fire fighting measures

5.1. Fire fighting

SUITABLE EXTINGUISHING MEANS
The extinguishing media are: carbon dioxide, foam, chemical powder. For product leaks and spills that have not ignited, water spray can be used to disperse flammable vapors and protect those trying to stop the leak.
UNSUITABLE EXTINGUISHING MEANS
Do not use water jets. Water is not effective in extinguishing fires however it can be used to cool closed containers exposed to flames preventing bursts and explosions.

5.2. Special hazards arising from the substance or mixture

DANGERS DUE TO EXPOSURE IN THE EVENT OF FIRE
Overpressure can be created in containers exposed to fire with risk of explosion. Avoid breathing combustion products.

5.3. Recommendations for fire extinguishers

GENERAL INFORMATIONS
Cool the containers with jets of water to avoid decomposition of the product and the development of substances potentially dangerous to health. Always wear full fire protection equipment. Collect extinguishing water that must not be discharged into sewers. Dispose of the contaminated water used for extinguishing and the residue of the fire according to current regulations.
EQUIPMENT
Normal fire-fighting clothing, such as an open circuit compressed air breathing apparatus (EN 137), flame retardant suit (EN469), flame retardant gloves (EN 659) and fire fighter boots (HO A29 or A30).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Stop the leak if there is no danger.
Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of skin, eyes and personal clothing. These indications are valid both for workers and for emergency interventions.

Keep unequipped people away. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks,

etc.) or heat from the area where the leak occurred.

6.2. Environmental precautions

Prevent the product from entering sewers, surface waters and groundwater.

6.3. Methods and materials for containment and cleanup

Suck up the spilled product into a suitable container. Evaluate the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material.
Provide sufficient ventilation of the area affected by the leak. Disposal of contaminated material must be carried out in accordance with the provisions of point 13.

6.4. Reference to other sections

Any information regarding personal protection and disposal is reported in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for Safe Handling

Keep away from heat, sparks and open flames, do not smoke or use matches or lighters. Without adequate ventilation, vapors can accumulate on the ground and ignite even remotely, if triggered, with the risk of backfire. Avoid the accumulation of electrostatic charges. Connect to an earth socket in the case of large packaging during decanting operations and wear antistatic shoes. The strong agitation and vigorous flow of the liquid in the pipes and equipment can cause the formation and accumulation of electrostatic charges. To avoid the risk of fire and explosion, never use compressed air when handling. Open containers with caution, as they may be under pressure. Do not eat, drink or smoke during use. Avoid dispersing the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Keep containers closed, in a well-ventilated place, away from direct sunlight. Store in a cool, well-ventilated place, away from heat sources, open flames, sparks and other sources of ignition. Store containers away from any incompatible materials, checking section 10.

7.3. Specific end uses

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Normative requirements:

CZE	Ceská 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
EXP	Spain	Professional exposure limits for chemical agents in Spain 2021
FRA	France	Value limits of professional exposure to chemical agents in France. ED 984 - INRS
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/A 6.3.2020) ξεις 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 συνδ έονπ την εργασία` »
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnimkemikalijama na radu, graničnim vrijednostima izloženosti i zloškim graničnim vrijednostima (NN 1/2021)
ITA	Italy	Legislative Decree 9 April 2008, n.81

NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
ROU	Romania	Hotărârea nr. 53/2021 for modification hotărârii guvernului nr. 1.218/2006, precum to be modified and completed in hot guvernului nr. 1.093/2006
SVN	Slovenia	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 into 78/19)
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2021

1-METHYL-2-METHOXYETHYL ACETATE

Threshold limit value

type	State	TWA/8h		STEL/15min		Note / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	270	49.14	550	100.1	SKIN
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	EXP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
TLV	GRC	275	50	550	100	
GVI/KGVI	HRV	275	50	550	100	SKIN
VLEP	ITA	275	50	550	100	SKIN
TGG	NLD	550				
TLV	ROU	275	50	550	100	SKIN
MV	SVN	275	50	550	100	SKIN
WEL	GBR	274	50	548	100	SKIN
OEL	EU	275	50	550	100	SKIN

Predicted no-effect concentration on the environment - PNEC		
Reference value in fresh water	0.635	mg/l
Reference value in sea water	0.0635	mg/l
Reference value for sediments in fresh water	3.29	mg/kg
Reference value for sediments in sea water	0.329	mg/kg
Reference value for STP microorganisms	100	mg/l
Reference value for the terrestrial compartment	0.29	mg/kg
Reference value for the atmosphere	6.35	mg/l

Health - Derived no effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exhibition Street	Acute rooms	Acute systemic	Chronic premises	Systemic chronic	Acute rooms	Systemic acute	Chronic premises	Systemic chronic
Oral							VND	1.6 mg/kg
Inhalation			VND	275 mg/m3			VND	33 mg/m3
Dermal			VND	153.5 mg/kg			VND	54.8 mg/kg

ISOPROPYL ACETATE

Threshold limit value

type	State	TWA/8h		STEL/15min		Note / Observations
		mg/m3	ppm	mg/m3	ppm	

TLV	CZE	800	188.8	1000	236
MAK	DEU	420	100	840	200
VLA	EXP	425	100	850	200
VLEP	FRA	950	250	1140	300
TLV	GRC	950	250	1140	275
GVI/KGVI	HRV			849	200
TLV	ROU	400	96	600	144
MV	SVN	420	100	420	100
WEL	GBR			849	200
TLV-ACGIH			100		150

N-BUTYL ACETATE

Threshold limit value

type	State	TWA/8h		STEL/15min		Note / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	950	196.65	1200	248.4	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	EXP	241	50	724	150	
VLEP	FRA	710	150	940	200	
TLV	GRC	710	150	950	200	
GVI/KGVI	HRV	241	50	723	150	
VLEP	ITA	241	50	723	150	
TGG	NLD	150				
TLV	ROU	241	50	723	150	
MV	SVN	300	62	600	124	
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

Predicted no-effect concentration on the environment - PNEC		
Reference value in fresh water	0.18	mg/l
Reference value in sea water	0.018	mg/l
Reference value for sediments in fresh water	0.981	mg/kg
Reference value for sediments in sea water	0.0981	mg/kg
Reference value for STP microorganisms	35.6	mg/l
Reference value for the terrestrial compartment	0.0903	mg/kg
Reference value for the atmosphere	0.36	mg/l

Health - Derived no effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exhibition Street	Acute rooms	Acute systemic	Chronic premises	Systemic chronic	Acute rooms	Systemic acute	Chronic premises	Systemic chronic
Inhalation	859.7 mg/m3	859.7 mg/m3	102.34 mg/m3	102.34 mg/m3	960 mg/m3	960 mg/m3	480 mg/m3	480 mg/m3

HEXAMETHYLENE-1,6-DIISOCYANATE

Threshold limit value

type	State	TWA/8h	STEL/15min	Note /

						Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	0.035	0.005	0.07	0.01	
AGW	DEU	0.035	0.005	0.035 (C)	0.005 (C)	
MAK	DEU	0.035	0.005	0.035 (C)	0.005 (C)	C = 0.070 mg/m3
VLA	EXP	0.035	0.005			
VLEP	FRA	0.075	0.01	0.15	0.02	
TLV	ROU	0.05	0.007	1	0.14	
MV	SVN	0.035	0.005	0.035	0.005	
TLV-ACGIH		0.034	0.005			

Predicted no-effect concentration on the environment - PNEC		
Reference value for sediments in fresh water	0.01334	mg/kg
Reference value for sediments in sea water	0.001334	mg/kg
Reference value for STP microorganisms	8.42	mg/l
Reference value for the terrestrial compartment	0.0026	mg/kg

Health - Derived no effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Exhibition Street	Acute rooms	Acute systemic	Chronic premises	Systemic chronic	Acute rooms	Systemic acute	Chronic premises	Systemic chronic
Inhalation					0.07 mg/m3		0.035 mg/m3	

Legend:

(C) = CEILING ; INALAB = Inhalable Fraction; RESPIR = Respirable Fraction; TORAC = Thoracic Fraction.

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

8.2. Exposure controls

Considering that the use of adequate technical measures should always take priority over personal protective equipment, ensure good ventilation in the workplace through effective local extraction.
When choosing personal protective equipment, ask your chemical suppliers for advice if necessary. Personal protective equipment must bear the CE marking which certifies their compliance with current regulations.

Provide emergency shower with eyecup.

HAND PROTECTION
Protect your hands with category III work gloves (ref. standard EN 374).
For the final choice of work glove material, the following must be considered: compatibility, degradation, breaking time and permeation.
In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is unpredictable. The gloves have a wear time that depends on the duration and method of use.

SKIN PROTECTION
Wear work clothes with long sleeves and safety footwear for professional category II use (ref. Regulation 2016/425 and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

Consider providing anti-static clothing if the work environment presents a risk of explosiveness.

EYE PROTECTION
We recommend wearing airtight protective glasses (ref. standard EN 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) of the substance or one or more of the substances present in the product is exceeded, it is recommended to wear a mask with a type A filter whose class (1, 2 or 3) must be chosen in relation to the limit concentration of use. (ref. standard EN 14387). If gases or vapors of a different nature and/or gases or vapors with particles (aerosols, fumes, mists, etc.) are present, combined filters must be provided. The use of respiratory protection means is necessary if the technical measures adopted are not sufficient to limit the worker's exposure to the threshold values taken into consideration. However, the protection offered by masks is limited.
In the event that the substance considered is odorless or its olfactory threshold is higher than the relevant TLV-TWA and in case of emergency, wear an open-circuit compressed air breathing apparatus (ref. standard EN 137) or a self-contained breathing apparatus external air (ref. EN 138 standard). For the correct choice of respiratory protection device, refer to the EN 529 standard.

ENVIRONMENTAL EXPOSURE CONTROLS
Emissions from production processes, including those from ventilation equipment, should be controlled for compliance with environmental protection legislation.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Property	Value	Information
Physical State	viscous liquid	
Color	colorless	
Odor	of solvent	
Olfactory threshold	not determined	
Melting or freezing point Initial	not available	
boiling point	not available	
Flammability	flammable liquid	
Lower explosive limit	not determined	Reason for missing data: The product is a mixture
Upper explosive limit	not determined	Reason for missing data: The product is a mixture
Flash point Auto-ignition	23 ≤ T ≤ 60 °C	
temperature	not determined	Reason for missing data: The product does not contain substances with this property
Decomposition temperature	not determined	Reason for missing given: The product does not contain substances with this property
pH	Not applicable	Reason for missing given: substance/mixture is not soluble (in water)
Kinematic viscosity	> 20.5 mm2/sec (40°C)	
Solubility	immiscible with water	
Partition coefficient: n-octanol/water: Vapor	not applicable	
pressure	not determined	
Density and/or Relative	1.056 kg/l	
density Relative vapor density	not determined	
Particle characteristics	Not applicable	

9.2. More information

9.2.1. Information regarding physical hazard classes

Information not available

9.2.2. Other safety features

Evaporation rate	not determined

VOC (Directive 2004/42/EC) :	33.40% - 352.70 g/litre
VOC (volatile carbon)	15.45 % - 163.16 g/litre not
Explosive properties	applicable
Oxidizing properties	Not applicable

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular dangers of reaction with other substances under normal conditions of use.

1-METHYL-2-METHOXYETHYL ACETATE

Stable under normal conditions of use and storage.

With air it can slowly give off peroxides which explode due to an increase in temperature.

N-BUTYL ACETATE

Decomposes on contact with: water.

HEXAMETHYLENE-1,6-DIISOCYANATE

Decomposes at 255°C/491°F. Polymerizes at temperatures above 200°C/392°F.

10.2. Chemical stability

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

10.3. Possibility of dangerous reactions

Vapors can form explosive mixtures with air.

1-METHYL-2-METHOXYETHYL ACETATE

May react violently with: oxidizing substances, strong acids, alkali metals.

N-BUTYL ACETATE

Risk of explosion in contact with: strong oxidizing agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

HEXAMETHYLENE-1,6-DIISOCYANATE

May form explosive mixtures with: alcohols, bases. May react violently with: alcohols, amines, strong bases, oxidizing agents, strong acids, water.

10.4. Conditions to avoid

Avoid overheating. Avoid the accumulation of electrostatic charges. Avoid any source of ignition.

N-BUTYL ACETATE

Avoid exposure to: humidity, heat sources, open flames.

HEXAMETHYLENE-1,6-DIISOCYANATE

Avoid exposure to: high temperatures, humidity.

10.5. Incompatible materials

1-METHYL-2-METHOXYETHYL ACETATE

Incompatible with: oxidizing substances, strong acids, alkali metals.

N-BUTYL ACETATE

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

HEXAMETHYLENE-1,6-DIISOCYANATE

Incompatible with: alcohols, carboxylic acids, amines, strong bases.

10.6. Hazardous decomposition products

Due to thermal decomposition or in the event of fire, gases and vapors potentially harmful to health can be released.

HEXAMETHYLENE-1,6-DIISOCYANATE

May develop: nitrogen oxides, hydrogen cyanide.

SECTION 11. Toxicological information

In the absence of experimental toxicological data on the product itself, any health hazards of the product were assessed based on the properties of the substances contained, according to the criteria established by the reference legislation for classification.
Therefore, consider the concentration of the individual dangerous substances possibly mentioned in section. 3, to evaluate the toxicological effects resulting from exposure to the product.

11.1. Information on the hazard classes defined in Regulation (EC) no. 1272/2008

Metabolism, kinetics, mechanism of action and other information

1-METHYL-2-METHOXYETHYL ACETATE
The main route of entry is the skin, while the respiratory route is less important, given the low vapor pressure of the product.

Information on likely routes of exposure

1-METHYL-2-METHOXYETHYL ACETATE
WORKERS: inhalation; contact with the skin.

N-BUTYL ACETATE
WORKERS: inhalation; contact with the skin.

Immediate, delayed and chronic effects resulting from short- and long-term exposures

1-METHYL-2-METHOXYETHYL ACETATE
Above 100 ppm there is irritation of the ocular, nasal and oropharyngeal mucous membranes. At 1000 ppm, balance disturbances and severe eye irritation are noted. The clinical and biological tests carried out on the exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation upon direct contact. No chronic effects on humans are reported (INCR, 2010).

N-BUTYL ACETATE
In humans, vapors of the substance cause irritation of the eyes and nose. In case of repeated exposure, skin irritation, dermatosis (with dryness and cracking of the skin) and keratitis occur.

Interactive effects

N-BUTYL ACETATE
A case of acute intoxication has been reported in a 33-year-old worker cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The subject had conjunctival and upper respiratory tract irritation, drowsiness, and impaired motor coordination, which resolved within 5 hours. The symptoms are attributed to mixed xylene and butyl acetate poisoning, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapors, but with uncertainty as to the responsibility of a particular solvent (INRC, 2011).

ACUTE TOXICITY

ATE (Inhalation - mists / dusts) of the mixture:	2.0 mg/l
ATE (Oral) of the mixture:	Not classified (no relevant component) Not
ATE (Dermal) of the mixture:	classified (no relevant component)

POLY(HEXAMETHYLENE DIISOCYANATE)

LD50 (Oral):	> 5000 mg/kg rat

1-METHYL-2-METHOXYETHYL ACETATE

LD50 (Dermal):	> 5000 mg/kg Rat
LD50 (Oral):	8530 mg/kg Rat

N-BUTYL ACETATE

LD50 (Dermal):	> 5000 mg/kg Rabbit
LD50 (Oral):	> 6400 mg/kg Rat
LC50 (Vapour inhalation):	21.1 mg/l/4h Rat

HEXAMETHYLENE-1,6-DIISOCYANATE

LC50 (Vapour inhalation):	0.124 mg/l/4h Rat

SKIN CORROSION / SKIN IRRITATION

Repeated exposure may cause dryness and cracking of the skin.

SERIOUS EYE DAMAGE / EYE IRRITATION

It does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITIZATION

Skin sensitiser

MUTAGENICITY ON GERM CELLS

It does not meet the classification criteria for this hazard class

CARCINOGENICITY

It does not meet the classification criteria for this hazard class

REPRODUCTION TOXICITY

It does not meet the classification criteria for this hazard class

SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE

May irritate the respiratory tract

May cause drowsiness or dizziness

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE

It does not meet the classification criteria for this hazard class

DANGER IN CASE OF ASPIRATION

Does not meet the classification criteria for this hazard class Viscosity: >20.5 mm2/sec (40°C)

11.2. Information about other hazards

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

SECTION 12. Ecological information

Use according to good working practices, avoiding dispersing the product into the environment. Notify the competent authorities if the product has reached watercourses or if it has contaminated the soil or vegetation.

12.1. Toxicity

1-METHYL-2-METHOXYETHYL ACETATE	
LC50 - Fish	> 100 mg/l/96h Onchoryncus mykiss
EC50 - Crustaceans	> 100 mg/l/48h Daphnia magna
EC50 - Algae / Aquatic Plants	> 100 mg/l/72h
N-BUTYL ACETATE	
LC50 - Pisces	18 mg/l/96h Pimephales promelas 44
EC50 - Crustaceans	mg/l/48h Daphnia magna
EC50 - Algae / Aquatic Plants	648 mg/l/72h Desmodesmus subspicatus

12.2. Persistence and degradability

POLY(HEXAMETHYLENE DIISOCYANATE)	
Solubility in water	0.1 - 100 mg/l
Degradability: data not available	
NOT rapidly degradable	
1-METHYL-2-METHOXYETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	
ISOPROPYL ACETATE	
Solubility in water	> 10000 mg/l
N-BUTYL ACETATE	
Solubility in water	1000 - 10000 mg/l
HEXAMETHYLENE-1,6-DIISOCYANATE	
NOT rapidly degradable	

12.3. Bioaccumulative potential

POLY(HEXAMETHYLENE DIISOCYANATE)	
Partition coefficient: n-octanol/water BCF	5.54
	367.7
1-METHYL-2-METHOXYETHYL ACETATE	
Partition coefficient: n-octanol/water	1,2
ISOPROPYL ACETATE	
Partition coefficient: n-octanol/water	1.03
N-BUTYL ACETATE	
Partition coefficient: n-octanol/water BCF	2,3
	15.3
HEXAMETHYLENE-1,6-DIISOCYANATE	
Partition coefficient: n-octanol/water BCF	3.2
	3.2

12.4. Mobility in soil

POLY(HEXAMETHYLENE DIISOCYANATE)	
Partition coefficient: soil/water	7.3
N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3

12.5. Results of PBT and vPvB assessment

Based on available data, the product does not contain PBT or vPvB substances in percentages ≥ 0.1%.

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

Information not available

SECTION 13. Disposal Considerations

13.1. Waste treatment methods

Reuse if possible. Product residues are to be considered hazardous special waste. The dangerousness of waste that partly contains this product must be assessed based on current legislative provisions.
Disposal must be entrusted to a company authorized to manage waste, in compliance with national and possibly local regulations. Transport of waste may be subject to ÀDR.

CONTAMINATED PACKAGING
Contaminated packaging must be sent for recovery or disposal in compliance with national waste management regulations.

SECTION 14. Transportation Information

14.1. UN number or ID number

ADR/RID, IMDG, IATA:	1263

14.2. Official UN shipping name

ADR / RID:	MATERIALS SIMILAR TO PAINTS
IMDG:	PAINT RELATED MATERIAL
IATA:	PAINT RELATED MATERIAL

14.3. Transport hazard classes

ADR / RID:	Class: 3	Label: 3
IMDG:	Class: 3	Label: 3
IATA:	Class: 3	Label: 3

14.4. Packing group

ADR/RID, IMDG, IATA:	III

14.5. Dangers for the environment

ADR / RID:	NO
IMDG:	NO
IATA:	NO

14.6. Special precautions for users

ADR / RID:	HIN - Kemler: 30	Amount Limited: 5 L	Code of restriction in gallery: (D/E)
	Special Arrangement: 163, 367, 650		
IMDG:	EMS: FE,SELF	Amount Limited: 5 L	
IATA:	Cargo:	Amount maximum: 220 L	Instructions Packaging: 366
	Pass.:	Amount maximum: 60 L	Instructions Packaging: 355
	Special Provision:	A3, A72, A192	

14.7. Maritime transport in bulk in accordance with IMO acts

Information not relevant

SECTION 15. Regulatory information

15.1. Health, safety and environmental laws and regulations specific for the substance or mixture

Seveso category - Directive 2012/18/EU: P5c

Restrictions relating to the product or substances contained according to Annex XVII Regulation (EC) 1907/2006

Product

Point	3 - 40

Substances contained

Point	75

Regulation (EU) 2019/1148 - relating to the placing on the market and use of explosives precursors

Not applicable

Substances in Candidate List (Art. 59 REACH)

Based on available data, the product does not contain SVHC substances in percentages ≥ 0.1%.

Substances subject to authorization (Annex XIV REACH)

None

Substances subject to export notification requirements Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Sanitary checks

Workers exposed to this chemical agent dangerous to health must be subjected to health surveillance carried out in accordance with the provisions of the art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the safety and health of the worker has been assessed as irrelevant, in accordance with the provisions of art. 224 paragraph 2.

VOC (Directive 2004/42/EC):

High performance two-component paints.

Legislative Decree 152/2006 and subsequent amendments

Emissions according to Part V Annex I:

TAB. D	Class I	74.00%
TAB. D	Class IV	18.00%

15.2. Chemical safety assessment

A chemical safety assessment was carried out for the following substances contained:

POLY(HEXAMETHYLENE DIISOCYANATE)

1-METHYL-2-METHOXYETHYL ACETATE

N-BUTYL ACETATE

HEXAMETHYLENE-1,6-DIISOCYANATE

SECTION 16. Other information

Text of the hazard statements (H) mentioned in sections 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Acute Tox. 1	Acute toxicity, category 1 Acute
Acute Tox. 4	toxicity, category 4 Eye irritation,
Eye Irrit. 2	category 2 Skin irritation,
Skin Irrit. 2	category 2
STOT IF 3	Specific target organ toxicity - single exposure, category 3 Respiratory
Sens. Manager 1	sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1 Highly
H225	flammable liquid and vapour.
H226	Flammable liquid and vapour.
H330	Fatal if inhaled.
H302	Harmful if ingested.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May irritate the respiratory tract.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause dryness and cracking of the skin.

Decoding usage descriptors:

LCS	**PW**	Widespread use by professional operators Coatings
PC	**9a**	and paints, thinners, pickling solutions Application
PROC	**10**	with rollers or brushes
PROC	**11**	Non-industrial spray applications
PROC	**7**	Industrial spray applications

LEGEND:
- ADR: European Agreement for the transport of dangerous goods by road
- CAS: Chemical Abstract Service Number
- CE: Identification number in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived no-effect level
- EC50: Concentration that gives effect to 50% of the population subject to testing
- EmS: Emergency Schedule
- GHS: Globally Harmonized System for the Classification and Labeling of Chemical Products
- IATA DGR: Regulations for the transport of dangerous goods of the International Air Transport Association
- IC50: Immobilization concentration of 50% of the population subject to testing
- IMDG: International Maritime Code for the Transport of Dangerous Goods
- IMO: International Maritime Organization
- INDEX: Identification number in Annex VI of CLP
- LC50: Lethal concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational exposure level
- PBT: Persistent, bioaccumulating and toxic according to REACH
- PEC: Predictable environmental concentration
- PEL: Predictable level of exposure
- PNEC: Predictable no-effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulations for the international transport of dangerous goods by train
- STA: Acute Toxicity Estimate
- TLV: Threshold limit value
- TLV CEILING: Concentration that must not be exceeded during any moment of occupational exposure.
- TWA: Weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulating according to REACH
- WGK: Aquatic hazard class (Germany).

GENERAL BIBLIOGRAPHY:
1. Regulation (EC) 1907/2006 of the European Parliament (REACH)
2. Regulation (EC) 1272/2008 of the European Parliament (CLP)
3. Regulation (EU) 2020/878 (Annex II of the REACH Regulation)
4. Regulation (EC) 790/2009 of the European Parliament (I Atp. CLP)
5. Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
6. Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
7. Regulation (EU) 487/2013 of the European Parliament (IV Atp. CLP)
8. Regulation (EU) 944/2013 of the European Parliament (V Atp. CLP)
9. Regulation (EU) 605/2014 of the European Parliament (VI Atp. CLP)
10. Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
11. Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
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 (EU) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (EU) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (EU) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (EU) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (EU) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (EU) 2022/692 (XVIII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology

- NI Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA Agency website
- Database of SDS models of chemical substances - Ministry of Health and Istituto Superiore di Sanità

Note for the user:
The information contained in this sheet is based on the knowledge available to us at the date of the last version. The user must ensure the suitability and completeness of the information in relation to the specific use of the product.
This document should not be interpreted as a guarantee of any specific property of the product.
Since the use of the product does not fall under our direct control, it is the user's obligation to observe the laws and regulations in force regarding hygiene and safety under his own responsibility. We do not assume responsibility for improper use.
Provide adequate training to personnel assigned to the use of chemical
products. CLASSIFICATION CALCULATION METHODS
Chemical-physical hazards: The classification of the product was derived from the criteria established by the CLP Regulation Annex I Part 2. The methods of evaluation of the chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on the calculation methods in Annex I of CLP Part 3, unless otherwise indicated in section 11.

Environmental hazards: The classification of the product is based on the calculation methods set out in Annex I of CLP Part 4, unless otherwise indicated in section 12.

Changes compared to the previous revision Changes
have been made to the following sections: 01 / 02 / 03 /
04 / 07 / 08 / 09 / 10 / 11 / 12 / 15 / 16.