

Safety Data Sheet

HARDENER P-20/IR



Safety Data Sheet dated 14/11/2022, version 3

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

1.1. Product identifier

Mixture identification:

Trade name: HARDENER P-20/IR

Trade code: MIL307

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

HARDENER FOR POLYAQUA P-20/IR

1.3. Details of the supplier of the safety data sheet

Company:

N.V.S.C. Srl

VIA S. MARTINO, 6 - 15028 QUATTORDIO (AL) - ITALIA TEL. +39-0131-773403

Competent person responsible for the safety data sheet:

g.venezia@nvsc.it

1.4. Emergency telephone number

National Poison Information Service (NPIS) – Birmingham (UK)

–director.birmingham.unit@npis.org

Croatian Institute for Toxicology and Antidoping – Zagreb (HR) –+385 01 46 41 368

Centro de Informacao Antivenenos Instituto nacional de Emergencia Medica Lisboa (P)- +351 213 303 271

Norwegian Environment Agency – Trondheim (N) - +47 73 58 05 00 Bloemfontein Poison Control and Medicine

Information Centre – Bloemfontein (ZA) - +27 824 910 160

Israel Poison Information Centre – Haifa (IL) - +97 248 541 900


Swiss Toxicological Information Centre – Zurich (CH) - +41 44 251 51 51

Riyadh Poison Control Center – Riyadh (SA) - +966 111 232 41 89 –pcc-riyadh@moh.gov.sa

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

 Warning, Flam. Liq. 3, Flammable liquid and vapour.

 Warning, Acute Tox. 4, Harmful if inhaled.

 Warning, Skin Sens. 1B, May cause an allergic skin reaction.

 Warning, STOT SE 3, May cause respiratory irritation.

Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Safety Data Sheet

HARDENER P-20/IR

Warning

Hazard statements:

- H226 Flammable liquid and vapour.
- H332 Harmful if inhaled.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
- P302+P352 IF ON SKIN: Wash with plenty of water and soap.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 Call a POISON CENTER/doctor/... if you feel unwell.
- P321 Specific treatment (see first aid measures on this label).
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P370+P378 In case of fire: Use ... to extinguish.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

- EUH204 Contains isocyanates. May produce an allergic reaction.

Contains

- Poliisocianato alifatico idrofilo
- hexamethylene-di-isocyanate: May produce an allergic reaction.

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards:

No other hazards


SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.












3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
$\geq 80\%$ -	Poliisocianato alifatico	CAS: 160994-68-3	 3.1/4/Inhal Acute Tox. 4 H332

Safety Data Sheet

HARDENER P-20/IR

< 90%	idrofilo		 3.4.2/1B Skin Sens. 1B H317  3.8/3 STOT SE 3 H335 4.1/C3 Aquatic Chronic 3 H412
>= 10% - < 12.5%	2-methoxy-1-methylethyl acetate	Index number: 607-195-00-7 CAS: 108-65-6 EC: 203-603-9 REACH No.: 01-21194757 91-29	 2.6/3 Flam. Liq. 3 H226  3.8/3 STOT SE 3 H336
792 ppm	hexamethylene-di-isocyanate	Index number: 615-011-00-1 CAS: 822-06-0 EC: 212-485-8 REACH No.: 01-21194575 71-37	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.4.2/1 Skin Sens. 1 H317  3.3/2 Eye Irrit. 2 H319  3.1/1/Inhal Acute Tox. 1 H330  3.4.1/1 Resp. Sens. 1 H334  3.8/3 STOT SE 3 H335 Specific Concentration Limits: C >= 10%: Skin Irrit. 2 H315 C >= 0,5%: Skin Sens. 1 H317 C >= 10%: Eye Irrit. 2 H319 C >= 0,5%: Resp. Sens. 1 H334 C >= 20%: STOT SE 3 H335

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

In case of fire: Use ... to extinguish.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Safety Data Sheet

HARDENER P-20/IR

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products:

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

Packaging materials:

7.3. Specific end use(s)

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

- OEL Type: EPY_OEL - TWA: 275 mg/m³, 50 ppm - STEL: 550 mg/m³, 100 ppm

- OEL Type: EU - TWA(8h): 275 mg/m³, 50 ppm - STEL: 550 mg/m³, 100 ppm -

Notes: Skin

hexamethylene-di-isocyanate - CAS: 822-06-0

- OEL Type: EPY_TLV-ACGIH - TWA: .034 mg/m³, .005 ppm

- OEL Type: EPY_TLV - TWA: .03 mg/m³

Safety Data Sheet

HARDENER P-20/IR

- OEL Type: ACGIH - TWA(8h): 0.005 ppm - Notes: URT irr, resp sens

DNEL Exposure Limit Values

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Worker Professional: 153.5 03 - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 275 04 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 54.8 03 - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 33 04 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 1.67 03 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

2-methoxy-1-methylethyl acetate - CAS: 108-65-6

Target: Fresh Water - Value: 0.635 mg/l

Target: Marine water - Value: 0.0635 mg/l

Target: 09 - Value: 0.29 mg/kg

Target: Freshwater sediments - Value: 3.29 mg/kg

Target: Marine water sediments - Value: 0.329 mg/kg

Target: Microorganisms in sewage treatments - Value: 100 mg/l

8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes
Physical state:	Liquid	--	--
Colour:	N.A.	--	--
Odour:		--	--
Melting point/freezing point:	N.A.	--	--
Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	Flam. Liq. 3, H226	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--

Safety Data Sheet

HARDENER P-20/IR

Decomposition temperature:	N.A.	--	--
pH:	N.A.	--	--
Kinematic viscosity:	> 20,5 mm ² /sec (40 °C)	--	--
Solubility in water:		--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	N.A.	--	--
Relative vapour density:	N.A.	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

9.2. Other information

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological information of the product:

HARDENER P-20/IR

a) acute toxicity

The product is classified: Acute Tox. 4 H332

ATEmix - Inhalation (Vapours) 12,5113 mg/l

b) skin corrosion/irritation

Not classified

Based on available data, the classification criteria are not met

c) serious eye damage/irritation

Not classified

Based on available data, the classification criteria are not met

d) respiratory or skin sensitisation

The product is classified: Skin Sens. 1B H317

e) germ cell mutagenicity

Not classified

Based on available data, the classification criteria are not met

Safety Data Sheet

HARDENER P-20/IR

- f) carcinogenicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - g) reproductive toxicity
 - Not classified
 - Based on available data, the classification criteria are not met
 - h) STOT-single exposure
 - The product is classified: STOT SE 3 H335
 - i) STOT-repeated exposure
 - Not classified
 - Based on available data, the classification criteria are not met
 - j) aspiration hazard
 - Not classified
 - Based on available data, the classification criteria are not met
- Toxicological information of the main substances found in the product:
- 2-methoxy-1-methylethyl acetate - CAS: 108-65-6
 - a) acute toxicity:
 - Test: LD50 - Route: EPY_DERMAL EPY_ > 5000 - Notes: Rat
 - Test: LD50 - Route: EPY_ORAL 8530 - Notes: Rat
 - hexamethylene-di-isocyanate - CAS: 822-06-0
 - a) acute toxicity:
 - Test: LC50 - Route: EPY_INHALATION 0.124 - Notes: Rat
- 11.2. Information on other hazards
- Endocrine disrupting properties:
 - No endocrine disruptor substances present in concentration $\geq 0.1\%$

SECTION 12: Ecological information

- 12.1. Toxicity
 - Adopt good working practices, so that the product is not released into the environment.
- HARDENER P-20/IR
 - The product is classified: Aquatic Chronic 3 - H412
- 12.2. Persistence and degradability
 - N.A.
- 12.3. Bioaccumulative potential
 - N.A.
- 12.4. Mobility in soil
 - N.A.
- 12.5. Results of PBT and vPvB assessment
 - vPvB Substances: None - PBT Substances: None
- 12.6. Endocrine disrupting properties
 - No endocrine disruptor substances present in concentration $\geq 0.1\%$
- 12.7. Other adverse effects
 - None

SECTION 13: Disposal considerations

- 13.1. Waste treatment methods
 - Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

Safety Data Sheet

HARDENER P-20/IR



- 14.1. UN number or ID number
- | | |
|------------------------|------|
| ADR-UN Number: | 1263 |
| ADR/RID/ADN-UN Number: | 1263 |
| ADR/RID-UN Number: | 1263 |
| ADR/ADN-UN Number: | 1263 |
| IATA-UN Number: | 1263 |
| IMDG-UN Number: | 1263 |
- 14.2. UN proper shipping name
- | | |
|----------------------------|-------|
| ADR-Shipping Name: | PAINT |
| ADR/RID-Shipping Name: | PAINT |
| ADR/ADN-Shipping Name: | PAINT |
| ADR/RID/ADN-Shipping Name: | PAINT |
| IATA-Shipping Name: | PAINT |
| IMDG-Shipping Name: | PAINT |
- 14.3. Transport hazard class(es)
- | | |
|-------------------------------------|----|
| ADR-Class: | 3 |
| ADR/RID-Class: | 3 |
| ADR/ADN-Class: | 3 |
| ADR/RID/ADN-Class: | 3 |
| ADR - Hazard identification number: | 30 |
| IATA-Class: | 3 |
| IATA-Label: | 3 |
| IMDG-Class: | 3 |
- 14.4. Packing group
- | | |
|----------------------------|-----|
| ADR-Packing Group: | III |
| ADR/RID-Packing Group: | III |
| ADR/ADN-Packing Group: | III |
| ADR/RID/ADN-Packing Group: | III |
| IATA-Packing group: | III |
| IMDG-Packing group: | III |
- 14.5. Environmental hazards
- | | |
|------------------------------|-----------|
| ADR-Environmental Pollutant: | No |
| IMDG-Marine pollutant: | No |
| IMDG-EmS: | F-E , S-E |
- 14.6. Special precautions for user
- | | |
|---|-------------|
| ADR-Subsidiary hazards: | - |
| ADR-S.P.: | 163 367 650 |
| ADR-Transport category (Tunnel restriction code): | 3 (D/E) |
| IATA-Passenger Aircraft: | 355 |
| IATA-Subsidiary hazards: | - |
| IATA-Cargo Aircraft: | 366 |
| IATA-S.P.: | A3 A72 A192 |
| IATA-ERG: | 3L |
| IMDG-Subsidiary hazards: | - |
| IMDG-Stowage and handling: | Category A |
| IMDG-Segregation: | - |
- 14.7. Maritime transport in bulk according to IMO instruments
- N.A.

Safety Data Sheet

HARDENER P-20/IR

SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- Dir. 98/24/EC (Risks related to chemical agents at work)
 - Dir. 2000/39/EC (Occupational exposure limit values)
 - Regulation (EC) n. 1907/2006 (REACH)
 - Regulation (EC) n. 1272/2008 (CLP)
 - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 - Regulation (EU) n. 2020/878
 - Regulation (EU) n. 286/2011 (ATP 2 CLP)
 - Regulation (EU) n. 618/2012 (ATP 3 CLP)
 - Regulation (EU) n. 487/2013 (ATP 4 CLP)
 - Regulation (EU) n. 944/2013 (ATP 5 CLP)
 - Regulation (EU) n. 605/2014 (ATP 6 CLP)
 - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
 - Regulation (EU) n. 2016/918 (ATP 8 CLP)
 - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
 - Regulation (EU) n. 2017/776 (ATP 10 CLP)
 - Regulation (EU) n. 2018/669 (ATP 11 CLP)
 - Regulation (EU) n. 2018/1480 (ATP 13 CLP)
 - Regulation (EU) n. 2019/521 (ATP 12 CLP)
 - Regulation (EU) n. 2020/217 (ATP 14 CLP)
 - Regulation (EU) n. 2020/1182 (ATP 15 CLP)
 - Regulation (EU) n. 2021/643 (ATP 16 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

- Restriction 3
- Restriction 40

Restrictions related to the substances contained:

- Restriction 74
- Restriction 75

Volatile Organic compounds - VOCs = 0.00 g/l

Volatile CMR substances = 0.00 %

Halogenated VOCs which are assigned the risk phrase R40 = 0.00 %

Organic Carbon - C = 0.00

Where applicable, refer to the following regulatory provisions :

- Directive 2012/18/EU (Seveso III)
- Regulation (EC) nr 648/2004 (detergents).
- Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

- Seveso III category according to Annex 1, part 1
- Product belongs to category: P5c

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

- H332 Harmful if inhaled.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.
- H412 Harmful to aquatic life with long lasting effects.
- H226 Flammable liquid and vapour.

Safety Data Sheet

HARDENER P-20/IR

H336 May cause drowsiness or dizziness.
 H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H330 Fatal if inhaled.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Hazard class and hazard category	Code	Description
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 1	3.1/1/Inhal	Acute toxicity (inhalation), Category 1
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Resp. Sens. 1	3.4.1/1	Respiratory Sensitisation, Category 1
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2020/878. Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Sens. 1B, H317	Calculation method
STOT SE 3, H335	Calculation method
Aquatic Chronic 3, H412	Calculation method

This document was prepared by a competent person who has received appropriate training.
 Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
 Commission of the European Communities
 SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van
 Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ATE: Acute Toxicity Estimate
 ATEmix: Acute toxicity Estimate (Mixtures)
 CAS: Chemical Abstracts Service (division of the American Chemical Society).
 CLP: Classification, Labeling, Packaging.

Safety Data Sheet

HARDENER P-20/IR

DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.