

H5520 HARDENER

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1. Product identifier
H5520 HARDENER

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

The hardener (component B) for NOVOL's acryl products.. For professional use in car refinish.

1.3. Data of the supplier Safety Data Sheet

NOVOL Sp. z o.o.
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Person responsible for the Safety Data Sheet

1.4. Emergency telephone number

+48 61 810-99-09 (from 7.00 to 15.00)

SECTION 2: HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

The mixture was classified as dangerous pursuant to current regulations - see section 15.

Classification 1272/2008/WE:

Acute toxicity (inhal.), Hazard Category 4 (Acute Tox. 4) Harmful if inhaled.
Irritating effect on skin, category 2 (Skin Irrit.2). Causes skin irritation.
Sensitisation — Skin, category 1 (Skin Sens. 1). May cause an allergic skin reaction.
Specific target organ toxicity — Single exposure, Hazard Category 3, Respiratory tract irritation (STOT SE 3). May cause respiratory irritation. Specific target organ toxicity — Single exposure, Hazard Category 3, Narcosis (STOT SE 3). May cause drowsiness or dizziness.
Liquid, flammable substances, category 3 (Flam. Liq. 3). Flammable liquid and vapour.

2.2. Label elements:

Contains:

Xylene. Contains isocyanates. May produce an allergic reaction.

Pictograms:



Signal word:

Warning

H226
H332
H315
H317
H335
H336

Flammable liquid and vapour.
Harmful if inhaled
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261

Avoid breathing vapours/spray.

P271

Use only outdoors or in a well-ventilated area.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P312

Call a doctor if you feel unwell.

2.3. Other hazards

Exothermic reaction with amines and alcohols, slow release of CO₂ in case of contact with water; pressure build-up in closed containers, danger of bursting of the containers.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable.

3.2. Mixtures

Product identification

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS cont.

Substance name	Identification numbers	Classification and marking	Concentration [wt%]
HDI oligomers, isocyanurate	WE: 931-274-8 CAS: 28182-81-2 Index no.: --- Registration no.: 01-2119485796-17-XXXX	Skin Sens. 1, H317 Acute Tox. 4; H332 STOT SE 3; H335	25-35
Xylene	EC: 215-535-7 CAS: 1330-20-7 Index no.: 601-022-00-9 Registration no.: 01-2119488216-32-XXXX	Flam. Liq. 3; H226; Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit.2; H315	20-30
Butyl acetate	EC: 204-658-1 CAS: 123-86-4 Index no.: 607-025-00-1 Registration no.: 01-2119485493-29-XXXX	Flam. Liq. 3; H226; STOT SE 3; H336	20-30
1-methoxy-2-propanol acetate	EC: 203-603-9 CAS: 108-65-6 Index no.: 607-195-00-7 Registration no.: 01-2119475791-29-XXXX	Flam. Liq. 3; H226;	10-20
Ethylbenzene	WE: 202-849-4 CAS: 100-41-4 Index no.: 601-023-00-4 Registration no.: 01-2119489370-35-XXXX	Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 (hearing organs) Acute Tox. 1; H304	<1
Hexamethylene diisocyanate	WE: 212-485-8 CAS: 822-06-0 Index no.: 615-011-00-1 Registration no.: 01-2119457571-37-XXXX	Acute Tox. 3, H331 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317	<0.2

The full text of the hazard statements (H) is provided in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information:

See section 11 of the Safety Data Sheet.

Inhalation:

Take the victim outside into fresh air, ensure quiet surrounding; in case of no breath, apply artificial respiration. Call a doctor.

Skin:

Take off contaminated clothing. Rinse contaminated skin with plenty of lukewarm water for about 15 minutes. If irritation persists, consult a doctor.

Eyes:

Rinse immediately with plenty of lukewarm water for about 15 minutes, avoid strong water jet-risk of cornea damage, consult a doctor.

Alimentary tract:

Do not provoke vomiting (choking risk). Call a doctor.

Person giving first aid should wear medical gloves.

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

May cause irritation by inhalation. Irritating to skin. May cause sensitization by skin contact. Repeated exposure may cause skin dryness or cracking. Flammable product. Vapours may cause drowsiness and dizziness.

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

Special measures allowing for specialist and immediate aid should be available in the place of work.

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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Powder, foam resistant to alcohols, carbon dioxide, water mist.

5.2. Special hazards arising from the substance or mixture

Fire may cause generation of carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Fire-fighting teams should wear self-contained breathing apparatus and light protective clothing. Cool adjacent tanks by spraying water at a safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

For persons not being the members of aid giving staff:

Eliminate sources of ignition. Ensure sufficient ventilation of the room. Avoid direct contact with the released substance. Avoid contact with skin and eyes. Personal protection measures - section 8 of the Safety Data Sheet.

For persons giving aid:

Persons giving aid should wear protective clothing made of coated, impregnated fabric, protective gloves (viton), tight protective glasses and breathing apparatus: gas mask with A type absorber.

6.2. Environmental precautions

Prevent leakage to the sewage system, surface waters, underground waters and soil.

6.3. Methods and materials for containment and cleaning up

Stop the leakage (close the liquid inflow, seal), place damaged container in an emergency container, remove the liquid mechanically and place it in an emergency container. In case of large leakage, embank the area. In case of small amounts, collect with the use of a binding agent (e.g. mica, diatomaceous earth, sand). After approx. 1 hour put into a waste container. Do not close the container (CO₂ is being released). Leave for several days in a secure place outdoor.

6.4. Reference to other sections

Personal protection measures - see section 8 of the Safety Data Sheet.

Disposal considerations - see section 13 of the Safety Data Sheet.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat and fire sources. Prevent leakage to the sewage system, surface waters, underground waters and soil. Use in well ventilated rooms. Do not smoke. Do not inhale fumes. Avoid contact with skin and eyes. Take precaution measures against electrostatic discharge. Use personal protection measures - section 8 of the Safety Data Sheet.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly sealed, original containers. Do not store near large amounts of organic peroxides and other strong oxidants. Take precaution measures against electrostatic discharge. Store in cool, well ventilated rooms. Protect from low temperatures, the influence of sunrays and heat sources.

7.3. Special end use(s)

Hardener (component B) for NOVOL's acryl products. For professional use in car refinish taking into consideration the information included in subsections 7.1 and 7.2.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

8.1. Control parameters

Xylene CAS 1330-20-7 according to:

- TRGS 900: MAK: 100ppm, MAK: 440 mg/m³, 2(II),DFG, H
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]: TWA 50 mg/m³, 220mg/m³, STEL 100ppm, 441 mg/m³, Sk, BMGV

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

- TRGS 900: MAK: 50ppm, MAK: 270 mg/m³, 1(I),DFG, EU, Y
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]: TWA 50 ppm, 274 mg/m³, STEL 100ppm, 548 mg/m³, Sk

H5520 HARDENER**SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION****8.1. Control parameters**

Butyl acetate CAS 123-86-4 according to:

- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]: TWA 150 ppm, 724 mg/m³, STEL 200ppm, 966 mg/m³

Hexamethylene diisocyanate CAS 822-06-0 according to:

- TRGS 900: MAK: 0.005ppm, 0.035mg/m³, 1;=2;(I),DFG, 12

Ethylbenzen CAS 100-41-4 according to:

- TRGS 900: MAK: 100ppm, MAK: 440 mg/m³, 2(I),EU, H
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]: TWA 100 ppm, 441mg/m³, STEL 125ppm, 552 mg/m³, Sk

8.2. Exposure control

Respiratory tract protection:

Gas mask with A2-P2 type absorber (EN 141).

Hand protection:

Protective gloves PN-EN 374-3 (viton, 0.7 mm thick, penetration time > 480 min, natural rubber, thickness >0,35 mm in the short-time exposure)

Eye protection:

Tight protective glasses.

Skin protection:

Proper protective clothing (coated impregnated fabrics).

Workplace:

Fixed fume extraction and general ventilation.

Environmental exposure control:

Prevent leakage to the sewage system, surface waters, underground waters and soil.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	liquid
Colour	colourless
Odour	strong, powerful
Odour threshold	0.9-9 mg/m ³ (Xylene)
pH	not applicable
Melting/freezing point	not applicable
Boiling point	126-140°C
Flash point	32°C
Autoignition point	about 430°C
Breakdown point	not specified
Evaporation rate	not specified
Flammability (solid, gas)	not applicable
Explosion limits	% lower: 1.0 vol% upper: 8.0 vol% (Xylene)
Vapour pressure	14 hPa (20°C)
Vapour density (with regard to air)	3.66 (Xylene)
Density	about 0.99 g/cm ³ (20°C)
Solubility (in water)	insoluble
N-octanol/water division ratio	3.12-3.2 (Xylene)
Viscosity	10-15 s
Explosive properties	not applicable
Oxidizing properties	not applicable

9.2 Other informations

No available data.

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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is not reactive under normal conditions.

10.2. Chemical stability

The product remains stable under normal conditions.

10.3. Possibility of hazardous reactions

Carbon monoxide and other toxic gases are generated as a result of thermal decomposition. Exothermic reaction with amines and alcohols, slow release of CO₂ in case of contact with water; pressure build-up in closed containers, danger of bursting of the containers.

10.4. Conditions to be avoided

Flammable product. Avoid contact with strongly oxidizing agents, peroxides, strong acids and bases. Avoid generation and accumulation of static electricity. Protect from the influence of sunrays and heat sources.

10.5. Incompatible materials

Avoid contact with large amounts of organic peroxides, strong acids and bases as well as other strong oxidants.

10.6. Hazardous decomposition products

Carbon monoxide nitric oxides, isocyanate fumes, trace amounts of hydrogen cyanide and other toxic gases are generated as a result of thermal decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

No experimental data available on the preparation. Evaluation was performed based on the data on dangerous ingredients included in the preparation.

a) Acute toxicity

Xylene	LD ₅₀ (rat, ingestion)	4300 mg/kg
	LC ₅₀ (rat, inhalation)	5000 ppm/4h
	LD ₅₀ (rabbit, skin)	1700 mg/kg
Butyl acetate	LD ₅₀ (rat, ingestion)	10768 mg/kg
	LC ₅₀ (rat, inhalation)	390 ppm/4h
	LD ₅₀ (rabbit, skin)	17600 mg/kg
1-methoxy-2-propanol acetate	LD ₅₀ (rat, ingestion)	8532 mg/kg
	LD ₅₀ (rabbit, skin)	5000 mg/kg
Ethylbenzen	LD ₅₀ (rat, ingestion)	3500mg/kg

b) skin corrosion/irritation

Causes skin irritation.

c) serious eye damage/irritation

No available data confirming the hazard class.

d) respiratory or skin sensitisation

May cause skin sensitization

e) germ cell mutagenicity

The mixture has not been classified as mutagenic. No available data confirming the hazard class.

f) carcinogenicity

The mixture has not been classified as cancerogenic. No available data confirming the hazard class.

g) reproductive toxicity

The mixture has not been classified as having any harmful effect on reproduction. No available data confirming the hazard class.

h) STOT-single exposure

May cause respiratory irritation.

i) STOT- repeated exposure

No available data confirming the hazard class.

j) aspiration hazard

No available data confirming the hazard class.

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Exposure methods:

Inhalation: Harmful if inhaled. May cause respiratory irritation.

Skin: Causes skin irritation.

Eyes: irritating effect.

If swallowed, the substance may cause irritation of the alimentary tract, nausea, vomiting and diarrhoea.

Poisoning symptoms:

Headache and vertigo, fatigue, decreased muscle power, drowsiness and, in exceptional instances, loss of consciousness.

Vapours might cause drowsiness and vertigo. Repeated exposure might cause skin dryness or rupture.

SECTION 12: ECOLOGICAL INFORMATION

No experimental data available on the preparation. Evaluation was performed based on the data on dangerous ingredients included in the preparation.

12.1. Toxicity

1-methoxy-2-propanol acetate

Daphnia magna EC50 (48hours.) > 500 mg/l

Oncorhynchus mykiss (rainbow trout)/LC50 (96 hours) 100-180 mg/l

Number in the catalogue of water hazardous substances: 5033

Water hazard class: 1

Xylene

Daphnia magna EC50 (48hours.) > 7.4 mg/l

Evaluation indicator of acute toxicity for mammals: 3; for fish: 4.1

Number in the catalogue of water hazardous substances: 206

Water hazard class: 2

Butyl acetate

Number in the catalogue of water hazardous substances: 42

Water hazard class: 1

Ethylbenzen

Daphnia magna /EC50 (24h) 73 mg/l

Number in the catalogue of water hazardous substances: 99

Water hazard class: 1

12.2. Persistence and degradability

Butyl acetate

Biodegradability: 98% (closed bottle test)

12.3. Bioaccumulative potential

Butyl acetate

Biodegradation coefficient: BCF=3.1

12.4. Mobility in soil

Product very poorly soluble in water. The product in the contact with water changes in solid, insoluble substance (policarbamide). CO₂ is released at the same time.

12.5. Results of PBT and vPvB assessment

No available data.

12.6. Other adverse effects

No available data.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

The product must be disposed of in compliance with proper local and statutory regulations with regard to waste - see point 15. The product should be disposed with entities which are authorised to conduct activity in the area of collecting, recycling or utilization of waste.

Product remains:

Do not dispose the product into the sewage system. Do not store with communal waste. Remove the remains of the mixture carefully and harden with the use of the proper A component, included in the set. The hardened product is not harmful waste.

CAUTION: harden the remains in small portions and keep them away from flammable products. High amounts of heat are released during chemical reaction!

Contaminated container:

A container containing unhardened remains of the product is harmful waste. Do not store with communal waste. The contaminated container should be disposed with entities which are authorized to collection, recover or disposal.

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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMO/IMGD	IATA-DGR
14.1. UN number	1866	1866	1866
14.2. UN proper shipping name		RESIN SOLUTION, flammable	
14.3. Transport hazard class(es)	3	3	3
14.4. Packaging group	III	III	III
14.5. Environmental hazards	none	none	none
14.6. Special precautions for user			
Do not transport together with materials of class 1 (excluding materials of class 1.4S) and some materials of classes 4.1 and 5.2. During transport, avoid direct contact with materials of classes 5.1 and 5.2. Do not use an open flame and do not smoke.			
14.7. Transport in bulk according to Annex II of MARPOL Convention and the IBC Code			
Not applicable.			

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Regulation 2006/1907/WE
CLP - Regulation 1272/2008/WE

15.2. Chemical safety assessment

Not performed

SECTION 16: OTHER INFORMATION

Relevant hazard statements listed in Sections 2 to 15:

Flam.Liq.3 Liquid, flammable substances, category 3
H226 Flammable liquid and vapour.
H225 Highly flammable liquid and vapour.
STOT SE 3 Specific target organ toxicity– single exposure, category 3
H335 May cause respiratory irritation.
H336 Might cause drowsiness or or dizziness.
Acute Tox. 4. Acute toxicity, category 4
H332 Harmful if inhaled.
H312 Harmful in contact with skin.
Skin Irrit. 2 Caustic/irritating effect on skin, category 2
H315 Causes skin irritation.
EUH066 Repeated exposure may cause skin dryness or cracking.
Eye Irrit. 2 Eye irritation, category 2.
H319 Causes serious eye irritation.
Resp. Sens. 1 Sensitisation — Respirat., Hazard Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1 Skin sensation, category 1.
H317 May cause an allergic skin reaction.
Asp. Tox. 1 Aspiration hazard, Hazard Category 1
H304 May be fatal if swallowed and enters airways.
STOT RE 2 Specific target organ toxicity — Repeated exposure, Hazard Category 2
H373 May cause damage to organs through prolonged or repeated exposure.

Explanation of the abbreviations and acronyms used in the Safety Data Sheet

CAS no – numerical symbol ascribed to a chemical substance by the American organization, Chemical Abstracts Service (CAS).

EC no. – a number ascribed to a chemical substance in the European List of Notified Chemical Substances (ELINCS) or a number in the European Inventory of Existing Chemical Substances mention in "No-longer polymers" publication (EINECS)

MPC – maximum permissible concentration of health hazardous substances in the work place

MPIC – maximum permissible instantaneous concentration

MPCC - maximum permissible ceiling concentration

PCB - permissible concentration in biological material

UN number - four-digit identification number of a substance, preparation or product pursuant to UN model regulations

ADR – European agreement on international road transport of hazardous materials

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SECTION 16: OTHER INFORMATION

Explanation of the abbreviations and acronyms used in the Safety Data Sheet

IMO – International Marine Organization

RID – Regulations for international rail transport of hazardous materials

IMDG-Code – International marine code for hazardous materials

ICAO /IATA – Technical Instructions for Safe Air Transport of Hazardous Materials

The information is based on our current knowledge. This document shall not constitute warranty for product characteristics. Classification was made by calculation method according to the classification rules contained in Regulation 1272/2008/WE.

Other sources of information

ECHA European Chemicals Agency

TOXNET Toxicology Data Network

IUCLID International Uniform Chemical Information Database

Changes: General update

Trainings:

With regard to handling, health and safety while working with hazardous substances and mixtures.

With regard to transport of hazardous goods pursuant to the requirements of ADR regulations.

Issued by: NOVOL Sp. z o.o.

Information available from: Research and Development Laboratory, tel. +48 61 810 99 09.