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

1.1 Product identifier

Powermix Resin (Polyol):

Valid for following types:

PMX 2120, PMX 5120, PMX 2444, PMX 2445, PMX 5045, PMX 5145, PMX 5245, PMX 2445-2, PMX 5045-2,

PMX 2446, PMX 5046, PMX 5146, PMX 5646, PMX 2470, PMX 5030, PMX 5050, PMX 5070, PMX 5170, PMX 5270,

PMX 5570, PMX 5670, PMX 2471, PMX 5031, PMX 5051, PMX 5071, PMX 5271, PMX 5671, PMX 2471-2, PMX 5071-2,

PMX 2570-2, PMX 5570-2, PMX 5072, PMX 5272, PMX 5672, PMX 5073, PMX 5273

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

1.2.1 Relevant uses

Adhesive
Resin

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Voelkel Industrie Produkte GmbH
Frauenstrasse 31
82216 Maisach / GERMANY
Phone +49 (0) 8141 35 549 0
Fax +49 (0) 8141 35 549 99
Homepage www.vip-gmbh.com
E-mail info@vip-gmbh.com

Address enquiries to

Technical information info@vip-gmbh.com

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (english)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Skin Irrit. 2: H315 Causes skin irritation.
Eye Dam. 1: H318 Causes serious eye damage.
Skin Sens. 1: H317 May cause an allergic skin reaction.

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms


Signal word DANGER

Contains: 4,4'-Methylenebis(cyclohexylamine)

Hazard statements
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P280 Wear protective gloves / eye protection / face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER / doctor.
P333+P313 If skin irritation or rash occurs: Get medical advice / attention.
P501 Dispose of contents/container in accordance with local/national regulation.

2.3 Other hazards

Human health dangers People who are allergic to amines should avoid the use of the product.

Other hazards Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
50 - 80	Ethylenediamine, propoxylated
	CAS: 25214-63-5, EINECS/ELINCS: 500−035−6, Reg-No.: 01-2119471485-32-XXXX
	GHS/CLP: Eye Irrit. 2: H319
3 - < 5	4,4'-Methylenebis(cyclohexylamine)
	CAS: 1761-71-3, EINECS/ELINCS: 217-168-8, Reg-No.: 01-2119541673-38-XXXX
	GHS/CLP: Acute Tox. 4: H302 - Skin Corr. 1B: H314 - Eye Dam. 1: H318 - Skin Sens. 1B: H317 - STOT RE 2: H373
1 - < 3	Trimethoxyvinylsilane
	CAS: 2768-02-7, EINECS/ELINCS: 220-449-8, Reg-No.: 01-2119513215-52-XXXX
	GHS/CLP: Flam. Liq. 3: H226 - Acute Tox. 4: H332

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Remove contaminated soaked clothing immediately and dispose of safely.

Inhalation
Remove the victim into fresh air and keep him calm.
In the event of symptoms seek medical treatment.

Skin contact
In case of contact with skin wash off immediately with soap and water.
Consult a doctor if skin irritation persists.

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion
Consult a doctor immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Carbon dioxide.
Dry powder.
Water spray jet.
Alcohol-resistant foam.

Extinguishing media that must not be used
Full water jet

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Wear suitable protective equipment. For personal protection see SECTION 8.
High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid contact with eyes and skin. Use personal protective equipment.

Do not eat, drink or smoke when using this product.
Wash hands before breaks and after work.
Use barrier skin cream.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.

Do not store together with oxidizing agents.

Keep container tightly closed.
Keep container in a well-ventilated place.
Store in a dry place.
Protect from atmospheric moisture and water.
Do not keep at temperatures above 50 °C.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

DNEL

Substance
Ethylenediamine, propoxylated, CAS: 25214-63-5
Industrial, inhalative, Long-term - systemic effects: 98 mg/m³.
Industrial, dermal, Long-term - systemic effects: 13,9 mg/kg bw/d.
general population, dermal, Long-term - systemic effects: 8,3 mg/kg bw/d.
general population, inhalative, Long-term - systemic effects: 29 mg/m³.
general population, oral, Long-term - systemic effects: 8,3 mg/kg bw/d.
4,4'-Methylenebis(cyclohexylamine), CAS: 1761-71-3
Industrial, dermal, Long-term - systemic effects: 0,1 mg/kg bw/d.
Industrial, inhalative, Long-term - systemic effects: 1 mg/m³.
general population, inhalative, Long-term - systemic effects: 0,21 mg/m³.
general population, dermal, Long-term - systemic effects: 0,06 mg/kg bw/d.
general population, oral, Long-term - systemic effects: 0,06 mg/kg bw/d.
Trimethoxyvinylsilane, CAS: 2768-02-7
Industrial, dermal, Long-term - systemic effects: 0,69 mg/kg bw/d.
Industrial, inhalative (vapor), Long-term - systemic effects: 4,9 mg/m³.
general population, dermal, Long-term - local effects: 26,9 mg/kg bw/d.
general population, inhalative (vapor), Long-term - local effects: 93,4 mg/m³.
general population, dermal, Long-term - systemic effects: 0,3 mg/kg bw/d.
general population, oral, Long-term - systemic effects: 0,3 mg/kg bw/d.
general population, inhalative (vapor), Long-term - systemic effects: 1,04 mg/m³.

PNEC

Substance
Ethylenediamine, propoxylated, CAS: 25214-63-5
soil, 0,0162 mg/kg dw.
sediment (seaater), 0,0074 mg/kg dw.
sediment (freshwater), 0,074 mg/kg dw.
freshwater, 0,0085 mg/l.
freshwater, 0,085 mg/l.
sewage treatment plants (STP), 70 mg/l.
4,4'-Methylenebis(cyclohexylamine), CAS: 1761-71-3
seawater, 0,0008 mg/l.
sewage treatment plants (STP), 80 mg/l.
freshwater, 0,008 mg/l.
sediment (freshwater), 0,39 mg/kg dw.
soil, 0,072 mg/kg dw.
sediment (seaater), 0,039 mg/kg dw.
Trimethoxyvinylsilane, CAS: 2768-02-7
sediment (freshwater), 0,27 mg/kg ww.

freshwater, 0,34 mg/l.
sewage treatment plants (STP), 110 mg/l.
soil, 0,046 mg/kg.
seawater, 0,034 mg/l.

8.2 Exposure controls

Additional advice on system design
Ensure adequate ventilation on workstation.
Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

Eye protection
Tightly fitting goggles. (EN 166:2001)

Hand protection
The details concerned are recommendations. Please contact the glove supplier for further information.
> 0,11 mm, Nitrile rubber, >480 min (EN 374-1/-2/-3).
> 0,11 mm, Butyl rubber, >480 min (EN 374-1/-2/-3).
> 0,11 mm, PVC (EN 374-1/-2/-3).

Skin protection
Protective clothing.

Other
Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Do not inhale vapours.
Avoid contact with eyes and skin.

Respiratory protection
Respiratory protection mask in the event of high concentrations.
Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)

Thermal hazards
not applicable

Delimitation and monitoring of the environmental exposition
Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	black
Odor	characteristic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	No information available.
Flash point [°C]	> 150
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	1,02 (20°C)
Bulk density [kg/m³]	not applicable
Solubility in water	immiscible
Partition coefficient [n-octanol/water]	No information available.
Viscosity	1800 mPas (23°C)
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Autoignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	No information available.

9.2 Other information

Ignition Temperature: > 300°C

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.
Reactions with isocyanates.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No dangerous reactions known if used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product
ATE-mix, inhalative, > 20 mg/l/4h.
ATE-mix, oral, > 2000 mg/kg.

Substance
Ethylenediamine, propoxylated, CAS: 25214-63-5
LD50, dermal, Rat: > 2000 mg/kg bw.
LD50, oral, Rat: > 2000 mg/kg bw.
NOAEL, oral, Rat: 1000 mg/kg bw/4w.
4,4'-Methylenebis(cyclohexylamine), CAS: 1761-71-3
LD50, dermal, Rabbit: 2110 mg/kg.
LD50, oral, Rat: 625 mg/kg.
Trimethoxyvinylsilane, CAS: 2768-02-7
LD50, dermal, Rabbit: 3200 mg/kg bw.
LD50, oral, Rat: 7120 - 7236 mg/kg bw.
LC50, inhalativ (vapour), Rat: 16,8 mg/l/4h.
NOAEL, oral, Rat: > 1000 mg/kg bw/28d.

Serious eye damage/irritation	Risk of serious damage to eyes. Calculation method
Skin corrosion/irritation	Irritant Calculation method
Respiratory or skin sensitisation	May cause an allergic skin reaction. Calculation method
Specific target organ toxicity — single exposure	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — repeated exposure	Based on the available information, the classification criteria are not fulfilled.
Mutagenicity	Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	Based on the available information, the classification criteria are not fulfilled.
Carcinogenicity	Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	Based on the available information, the classification criteria are not fulfilled.
General remarks	
	Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

Substance
Ethylenediamine, propoxylated, CAS: 25214-63-5
LC50, (96h), Leuciscus idus: 4600 mg/l.
EC50, (48h), Daphnia magna: > 100 mg/l.
ErC50, (72h), Desmodesmus subspicatus: 150,67 mg/l.
4,4'-Methylenebis(cyclohexylamine), CAS: 1761-71-3
LC50, (96h), Leuciscus idus: 46 - 100 mg/l.
EC50, (72h), Algae: 140 - 200 mg/l.
EC50, (48h), Daphnia magna: 6,84 mg/l.
Trimethoxyvinylsilane, CAS: 2768-02-7
LC50, (96h), Oncorhynchus mykiss: 191 mg/l.
EC50, (48h), Daphnia magna: 169 mg/l.
IC50, (72h), Selenastrum capricornutum: 210 mg/l.
NOEC, (72h), Selenastrum capricornutum: 25 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments No information available.

Behaviour in sewage plant No information available.

Biological degradability No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

not applicable

12.6 Other adverse effects

Ecological data of complete product are not available.
Do not discharge product unmonitored into the environment or into the drainage.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
For recycling, consult manufacturer.

Waste no. (recommended) 080409*

Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID	NO DANGEROUS GOODS
Inland navigation (ADN)	NO DANGEROUS GOODS
Marine transport in accordance with IMDG	NOT CLASSIFIED AS "DANGEROUS GOODS"
Air transport in accordance with IATA	NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.4 Packing group

Transport by land according to ADR/RID	not applicable
Inland navigation (ADN)	not applicable
Marine transport in accordance with IMDG	not applicable
Air transport in accordance with IATA	not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID	no
Inland navigation (ADN)	no
Marine transport in accordance with IMDG	no
Air transport in accordance with IATA	no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2017).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for young people. Observe employment restrictions for mothers-to-be and nursing mothers.
- VOC (2010/75/CE)	No information available.

15.2 Chemical safety assessment

For the following substances of this preparation a chemical safety assessment has been carried out:
CAS 1761-71-3

SECTION 16: Other information

16.1 Hazard statements (SECTION 03)

H332 Harmful if inhaled.
H226 Flammable liquid and vapour.
H373 May cause damage to organs through prolonged or repeated exposure.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H314 Causes severe skin burns and eye damage.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ATE = acute toxicity estimate
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
LC0 = lethal concentration, 0%
LOAEL = lowest-observed-adverse-effect level
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
STP = Sewage Treatment Plant
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)

Modified position

SECTION 2 deleted: Aquatic Chronic 3

SECTION 2 deleted: H412 Harmful to aquatic life with long lasting effects.

SECTION 7 been added: Protect from atmospheric moisture and water.

SECTION 7 been added: Avoid contact with eyes and skin. Use personal protective equipment.

SECTION 8 been added: Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

SECTION 8 been added: Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9 deleted: not determined

SECTION 9 been added: No information available.

SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.

SECTION 11 deleted: not determined

SECTION 11 been added: Risk of serious damage to eyes.

SECTION 11 been added: Calculation method

SECTION 11 deleted: not determined

SECTION 11 been added: May cause an allergic skin reaction.

SECTION 12 deleted: not determined

SECTION 12 been added: No information available.

SECTION 12 been added: Ecological data of complete product are not available.

SECTION 15 been added: For the following substances of this preparation a chemical safety assessment has been carried out:

SECTION 15 been added: Observe employment restrictions for young people.

SECTION 15 been added: Observe employment restrictions for mothers-to-be and nursing mothers.

SECTION 15 deleted: Chemical safety assessments for substances in this mixture were not carried out.