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

1.1 Product identifier

POLINOX P Rapid

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

1.2.1 Relevant uses

metal surface treatment

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company POLIGRAT GmbH

Valentin-Linhof-Straße 19 81829 München / GERMANY Phone +49 (0) 89-42778-0 Fax +49 (0) 89-42778-309 Homepage www.poligrat.de E-mail info@poligrat.de

Address enquiries to

Technical information info@poligrat.de
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

Acute Tox. 1: H310 Fatal in contact with skin. Acute Tox. 2: H300 Fatal if swallowed. Acute Tox. 3: H331 Toxic if inhaled.

Skin Corr. 1: H314 Causes severe skin burns and eye damage.

Met. Corr. 1: H290 May be corrosive to metals. Eye Dam. 1: H318 Causes serious eye damage.

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2.2 Label elements

Hazard pictograms

Signal word DANGER

Contains: Hydrofluoric acid

Calcium nitrate Nitric acid

Aluminium nitrate

Hazard statements H310 Fatal in contact with skin.

H300 Fatal if swallowed. H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H290 May be corrosive to metals.

Precautionary statements P260 Do not breathe vapours / spray.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / protective clothing / eye protection / face protection. P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water [or shower].

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. P363 Wash contaminated clothing before reuse.

P501 Dispose of contents/container in accordance with local/national regulation.

Special labelling EUH071 Corrosive to the respiratory tract.

2.3 Other hazards

Environmental hazardsDoes not contain any PBT or vPvB substances.

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
10 - <25	Hydrofluoric acid
	CAS: 7664-39-3, EINECS/ELINCS: 231-634-8, EU-INDEX: 009-003-00-1, Reg-No.: 01-2119458860-33-XXXX
	GHS/CLP: Acute Tox. 1: H310 - Acute Tox. 2: H300 H330 - Skin Corr. 1A: H314
3 - <10	Calcium nitrate
	CAS: 10124-37-5, EINECS/ELINCS: 233-332-1, Reg-No.: 01-2119495093-35-XXXX
	GHS/CLP: Eye Dam. 1: H318 - Ox. Sol. 2: H272 - Acute Tox. 4: H302
5 - <20	Nitric acid
	CAS: 7697-37-2, EINECS/ELINCS: 231-714-2, EU-INDEX: 007-004-00-1, Reg-No.: 01-2119487297-23-XXXX
	GHS/CLP: Ox. Liq. 1: H271 - Skin Corr. 1A: H314 - Met. Corr. 1: H290 - Acute Tox. 3: H331
3 - <25	Aluminium nitrate
	CAS: 13473-90-0, EINECS/ELINCS: 236-751-8, Reg-No.: 01-2119979577-14-XXXX
	GHS/CLP: Eye Dam. 1: H318

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.

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SECTION 4: First aid measures

4.1 Description of first aid measures

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

Take off contaminated clothing and wash before reuse.

Inhalation Get medical advice.

Ensure supply of fresh air.

Skin contact Immediate medical treatment necessary, as untreated burns can result in slow-healing

wounds.

In case of contact with skin wash off immediately with plenty of water.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing. Shield unaffected eye. Consult a doctor immediately.

Ingestion Do not induce vomiting.

Rinse out mouth and give plenty of water to drink.

Consult a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Product is caustic.

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.

Water spray jet. Dry powder. 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.

Hydrogen fluoride (HF).

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Wear full protective suit.

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

Use personal protective equipment (protective gloves, safety glasses, protective clothing).

Ensure adequate ventilation.

Use breathing apparatus if exposed to vapours/dust/aerosol.

Keep people away and stay on the upwind side.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

Take up mechanically.

Take up residues with absorbent material (e.g. acid binder). Dispose of absorbed material in accordance within the regulations.

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6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide suitable vacuuming at the processing machines.

Use only in well-ventilated areas.

After worktime and before work breaks the affected skin areas must be thoroughly cleaned.

Remove contaminated soaked clothing immediately and dispose of safely.

Do not eat, drink, smoke or take drugs at work.

Use barrier skin cream.

Do not eat, drink or smoke when using this product.

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.

Provide acid-resistant floor.

Do not store together with reducing agents.

Do not store with alkalies.

Keep container tightly closed.

Keep container in a well-ventilated place.

Recommended storage temperature: 20 °C.

Protect from heat/overheating.

Keep under lock and key. Should only be accessible to specialists or people authorized by

them.

7.3 Specific end use(s)

See product information.

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SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance

Nitric acid

CAS: 7697-37-2, EINECS/ELINCS: 231-714-2, EU-INDEX: 007-004-00-1, Reg-No.: 01-2119487297-23-XXXX

Short-term exposure (15-minute): 1 mg/m³, 2,6

Hydrofluoric acid

CAS: 7664-39-3, EINECS/ELINCS: 231-634-8, EU-INDEX: 009-003-00-1, Reg-No.: 01-2119458860-33-XXXX

Long-term exposure: 1,8 ppm, 1,5 mg/m³, as F

Short-term exposure (15-minute): 3 ppm, 2,5 mg/m³

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES

Nitric acid

CAS: 7697-37-2, EINECS/ELINCS: 231-714-2, EU-INDEX: 007-004-00-1, Reg-No.: 01-2119487297-23-XXXX

Short-term (15-minute): 1 ppm, 2,6 mg/m³

Hydrofluoric acid

CAS: 7664-39-3, EINECS/ELINCS: 231-634-8, EU-INDEX: 009-003-00-1, Reg-No.: 01-2119458860-33-XXXX

Eight hours: 1,8 ppm, 1,5 mg/m³

Short-term (15-minute): 3 ppm, 2,5 mg/m³

DNEL

Substance

Aluminium nitrate, CAS: 13473-90-0

Industrial, dermal, Long-term - systemic effects: 340 µg/kg bw/d.

Industrial, inhalative, Long-term - systemic effects: 500 µg/m³.

general population, dermal, Long-term - systemic effects: 200 μg/kg bw/d.

general population, inhalative, Long-term - systemic effects: 120 µg/m³.

general population, oral, Long-term - systemic effects: 200 µg/kg bw/d.

Calcium nitrate, CAS: 10124-37-5

general population, oral, Acute - systemic effects: 10 mg/kg bw/d.

Nitric acid, CAS: 7697-37-2

Industrial, inhalative, Long-term - local effects: 2,6 mg/m³.

Industrial, inhalative, Acute - local effects: 2,6 mg/m³.

general population, inhalative, Acute - local effects: 1,3 mg/m3.

general population, inhalative, Long-term - local effects: 0,65 mg/m³.

Hydrofluoric acid, CAS: 7664-39-3

Industrial, inhalative, Long-term - local effects: 1,5 µg/m³.

Industrial, inhalative, Long-term - systemic effects: 1,5 mg/m³.

Industrial, inhalative, Acute - local effects: 2,5 mg/m³.

Industrial, inhalative, Acute - systemic effects: 2,5 mg/m³.

general population, inhalative, Acute - systemic effects: 0,03 mg/m³.

general population, inhalative, Long-term - local effects: 0,2 mg/m³.

general population, oral, Acute - local effects: 0,01 mg/kg bw/day.

general population, oral, Long-term - systemic effects: 0,01 mg/kg bw/day.

general population, inhalative, Acute - local effects: 0,03 mg/m3.

general population, inhalative, Long-term - systemic effects: 0,03 mg/m³.

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PNEC

8.2 Exposure controls

Additional advice on system design

Ensure adequate ventilation on workstation.

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

Hand protection 0,7 mm Butyl rubber, >480 min (EN 374-1/-2/-3).

The details concerned are recommendations. Please contact the glove supplier for further

information.

Skin protectionAcid-resistant protective clothing.OtherAvoid contact with eyes and skin.

Do not inhale gases/vapours/aerosols.

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.

Respiratory protection Respiratory protection mask in the event of high concentrations.

Short term: filter apparatus, combination filter E-P2 (DIN EN 14387)

Thermal hazards no

Delimitation and monitoring of the

environmental exposition

See SECTION 6+7.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form pasty Color red Odor pungent **Odour threshold** not applicable pH-value < 1 (20°C) pH-value [1%] not determined Boiling point [°C] not determined Flash point [°C] not applicable Flammability (solid, gas) [°C] not applicable Lower explosion limit not applicable **Upper explosion limit** not applicable

Oxidising properties no
Vapour pressure/gas pressure [kPa] 1 (20°C)

Density [g/ml] 1,15 (20 °C / 68,0 °F)

Bulk density [kg/m³]not applicableSolubility in watermiscible

Partition coefficient [n-octanol/water] not determined

Viscosity 30000- 37000 mPas (20°C)

Relative vapour density determined not determined

in air

Evaporation speed not determined

Melting point [°C] not determined

Autoignition temperature [°C] not applicable

Decomposition temperature [°C] not determined

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

See SECTION 10.3.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Forms nitrous gases and hydrogen on action upon metals.

Glass and silicate-containing materials are attacked.

Evolution of toxic gases/vapours.

Reactions with reducing agents.

Reactions with alkalies (lyes).

Nitrous gases are generated on contact with ferrite materials (chrome steel, normal steel).

Use respiratory masks or leave the room.

10.4 Conditions to avoid

See SECTION 7 Strong heating.

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10.5 Incompatible materials

Various metals.

10.6 Hazardous decomposition products

Hydrogen fluoride (HF).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product

ATE-mix, inhalative, Rat: 4,9 mg/l/4h.

ATE-mix, dermal, Rat: 48,6 mg/kg.

ATE-mix, oral, Rat: 48,6 mg/kg.

Substance

Aluminium nitrate, CAS: 13473-90-0

LD50, dermal, Rabbit: 5000 mg/kg bw.

LD50, oral, mouse: 2261 mg/kg bw.

Calcium nitrate, CAS: 10124-37-5

LD50, dermal, Rat: 2000 mg/kg bw.

LD50, oral, Rat: 300 - 2000 mg/kg bw.

NOAEL, oral, Rat: 1000 - 1500 mg/kg bw/d.

Nitric acid, CAS: 7697-37-2

LC50, inhalative, Rat: 2,65 mg/L (4h).

NOAEL, oral, Rat: 1500 mg/kg bw/day.

NOAEC, inhalative, Rat: 2,15 ppm.

Hydrofluoric acid, CAS: 7664-39-3

LC50, inhalative, Rat: 1307 - 2340 ppm (60 min).

Serious eye damage/irritation Product is caustic.

Skin corrosion/irritation Product is caustic.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Specific target organ toxicity — Based on available data, the classification criteria are not met. single exposure

Specific target organ toxicity — Based on available data, the classification criteria are not met. repeated exposure

MutagenicityDoes not contain a relevant substance that meets the classification criteria.Reproduction toxicityDoes not contain a relevant substance that meets the classification criteria.CarcinogenicityDoes not contain a relevant substance that meets the classification criteria.

Aspiration hazard Based on available data, the classification criteria are not met. **General remarks**

Toxicological data of complete product are not available.

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

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pat00063 GB

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SECTION 12: Ecological information

12.1 Toxicity

Aluminium nitrate, CAS: 13473-90-0 LC50, (96h), fish: 58,4 mg/L. EC50, (72h), Algae: 75 - 14000 μg/L. EC50, (48h), Crustacea: 330 - 47500 μg/L. Calcium nitrate, CAS: 10124-37-5 LC50, (96h), fish: 100 - 1378 mg/L.
EC50, (72h), Algae: 75 - 14000 μg/L. EC50, (48h), Crustacea: 330 - 47500 μg/L. Calcium nitrate, CAS: 10124-37-5
EC50, (48h), Crustacea: 330 - 47500 μg/L. Calcium nitrate, CAS: 10124-37-5
Calcium nitrate, CAS: 10124-37-5
LC50, (96h), fish: 100 - 1378 mg/L.
EC50, (48h), Crustacea: 490 mg/L.
Nitric acid, CAS: 7697-37-2
LC50, (96h), fish: 12 g/L.
Hydrofluoric acid, CAS: 7664-39-3
LC50, (96h), Skeletonema costatum: 81 mg/l.
LC50, (96h), Oncorhynchus mykiss: 51 mg/l.
EC50, (48h), Daphnia magna: 26 mg/l.
NOEC, (21d), Daphnia magna: 8,9 mg/l.
NOEC, (21d), Oncorhynchus mykiss: 4 mg/l.

12.2 Persistence and degradability

Behaviour in environment

compartments

not determined

Behaviour in sewage plant not determined Biological degradability not determined

12.3 Bioaccumulative potential

not determined

12.4 Mobility in soil

not determined

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

Ecological data of complete product are not available.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

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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.

Waste no. (recommended)

110105*

Contaminated packaging

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

Uncontaminated packaging may be taken for recycling.

Waste no. (recommended)

150110* 150102

SECTION 14: Transport information

14.1 UN number

Transport by land according to

2922

ADR/RID

Inland navigation (ADN) 2922

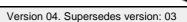
Marine transport in accordance with

IMDG

Air transport in accordance with IATA 2922

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14.2 UN proper shipping name

Transport by land according to ADR/RID

Corrosive liquid, toxic, n.o.s. (Hydrofluoric acid, Nitric acid)

- Classification Code

CT1

- Label



- ADR LQ 1 I

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 2 (E)

Inland navigation (ADN) Corrosive liquid, toxic, n.o.s. (Hydrofluoric acid, Nitric acid)

- Classification Code CT1





Marine transport in accordance with

Corrosive liquid, toxic, n.o.s. (Hydrofluoric acid, Nitric acid)

IMDG - EMS

- Label

F-A, S-B

- Label



- IMDG LQ

Air transport in accordance with IATA Corrosive liquid, toxic, n.o.s. (Hydrofluoric acid, Nitric acid solution)

- Label





14.3 Transport hazard class(es)

Transport by land according to 8

ADR/RID

Inland navigation (ADN) 8

Marine transport in accordance with 8

IMDG

Air transport in accordance with IATA 8

14.4 Packing group

Transport by land according to

ADR/RID

П

П

Inland navigation (ADN)

Marine transport in accordance with ||

IMDG

Air transport in accordance with IATA II

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14.5 Environmental hazards

Transport by land according to

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ADR/RID

no

Inland navigation (ADN)

Marine transport in accordance with

IMDG

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 determined

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) 0%

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 03)

H331 Toxic if inhaled.

H290 May be corrosive to metals.

H271 May cause fire or explosion; strong oxidiser.

H302 Harmful if swallowed. H318 Causes serious eye damage.

H272 May intensify fire; oxidiser.

H314 Causes severe skin burns and eye damage. H300+H330 Fatal if swallowed or if inhaled.

H310 Fatal in contact with skin.

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16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par

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 Acute Tox. 1: H310 Fatal in contact with skin. (Calculation method)

Acute Tox. 2: H300 Fatal if swallowed. (Calculation method) Acute Tox. 3: H331 Toxic if inhaled. (Calculation method)

Skin Corr. 1: H314 Causes severe skin burns and eye damage. (Calculation method)

Met. Corr. 1: H290 May be corrosive to metals. (Calculation method) Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)

Modified position SECTION 2 been added: Aluminium nitrate

SECTION 15 been added: EUH071 Corrosive to the respiratory tract.

SECTION 2 been added: Skin Corr. 1 SECTION 2 deleted: Skin Corr. 1A

SECTION 2 deleted: R 35: Causes severe burns.

SECTION 2 deleted: Corrosive

SECTION 2 deleted: R 26/27/28: Very toxic by inhalation, in contact with skin and if

swallowed

SECTION 2 deleted: Very toxic

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