

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Chemetall**  
expect more<sup>+</sup>

now part of BASF Group

## Antox 80 E

Version: 3.0

Revision Date 02.08.2016

Print Date 08.01.2018

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

#### 1.1 Product identifier

Trade name : Antox 80 E

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

Use of the Sub- : Treatment of metal surfaces.  
stance/Mixture

Recommended restrictions : None known.  
on use

#### 1.3 Details of the supplier of the safety data sheet

Company : Chemetall GmbH  
Aarauerstrasse 51  
CH-5200 Brugg

Contact person : franz.braun@chemetall.com  
Telephone : ++41(0)56 616 90 30  
Telefax : ++41(0)56 616 90 40

Contact person product safety  
Telephone : +49(0)6971653381  
E-mail address : msds.de@chemetall.com

#### 1.4 Emergency telephone number

Schweiz / Suisse / Switzer- : Tox Info Suisse  
land TEL. ++41(0) 44 251 51 51  
TEL. 145 (24 H)  
www.toxinfo.ch info@toxinfo.ch

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1	H290: May be corrosive to metals.
Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Acute toxicity, Category 2	H310: Fatal in contact with skin.
Skin corrosion, Category 1A	H314: Causes severe skin burns and eye damage.

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### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.  
H301 + H331 Toxic if swallowed or if inhaled  
H310 Fatal in contact with skin.  
H314 Causes severe skin burns and eye damage.

: EUH071 Corrosive to the respiratory tract.

Precautionary statements : **Prevention:**  
P260 Do not breathe vapours, aerosols.  
P262 Do not get in eyes, on skin, or on clothing.  
P280 Wear protective gloves/ protective clothing/  
eye protection/ face protection.

**Response:**  
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/shower.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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 or doctor/ physician.

**Storage:**  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

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Hazardous components which must be listed on the label:

- 7664-39-3 Hydrofluoric Acid

### 2.3 Other hazards

Symptoms of poisoning may appear several hours later.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

Chemical nature : Aqueous solution  
inorganic acids

#### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Nitric Acid	7697-37-2 231-714-2 01-2119487297-23	Ox. Liq. 3; H272  Skin Corr. 1A; H314  Eye Dam. 1; H318  Met. Corr. 1; H290  Note B	>= 20 - < 25
Hydrofluoric Acid	7664-39-3 231-634-8 01-2119458860-33	Acute Tox. 2; H330  Acute Tox. 1; H310  Acute Tox. 2; H300  Skin Corr. 1A; H314  Note B	>= 7 - < 10

For the full text of the H-Statements mentioned in this Section, see Section 16.

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For the full text of the Notas mentioned in this Section, see Section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : Take off contaminated clothing and shoes immediately.  
First Aid responders should pay attention to self-protection and use the recommended protective clothing  
Symptoms of poisoning may appear several hours later.  
Keep warm and in a quiet place.  
For effective first-aid, special training / education is needed.  
Medical supervision for minimum 48 hours.
- If inhaled : Move out of dangerous area.  
Ensure adequate ventilation.  
Call a physician immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water for at least 15 minutes.  
First treatment with calcium gluconate paste.  
Immediately drink calcium solution (calcium tablets dissolved in water).  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.  
Take victim immediately to hospital.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Protect unharmed eye.  
Call a physician immediately.
- If swallowed : Do NOT induce vomiting.  
Rinse mouth with water.  
Immediately drink calcium solution (calcium tablets dissolved in water).  
Call a physician immediately.

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

- Risks : Fatal in contact with skin.  
Toxic if swallowed or if inhaled  
Causes severe skin burns and eye damage.  
Extremely corrosive and destructive to tissue.  
Poisoning by resorption through skin possible.

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Watch victim for several hours because of possible delayed signs of poisoning.  
If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.  
Corrosive to the respiratory tract.

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

Treatment : Immediately drink calcium solution (calcium tablets dissolved in water).  
First treatment with calcium gluconate paste.  
For specialist advice physicians should contact the Poisons Information Service.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : May form toxic gases on heating or in case of fire.  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen fluoride

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Special protective equipment for firefighters

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Use water spray to cool unopened containers.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment.  
Keep people away from and upwind of spill/leak.

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Evacuate personnel to safe areas.

### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Use neutralizing agents.  
Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).  
Dispose of as special waste in compliance with local and national regulations.  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

### 6.4 Reference to other sections

See chapter 8 and 13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours, aerosols.  
Wear personal protective equipment.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid contact with skin and eyes.  
Avoid formation of aerosol.  
Ensure that eye flushing systems and safety showers are located close to the working place.  
To avoid risks to man and the environment, comply with the instructions for use.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a place accessible by authorized persons only.  
Store in original container.  
Keep containers tightly closed in a cool, well-ventilated place.  
To maintain product quality, do not store in heat or direct sunlight.

Further information on storage conditions : Avoid contact with metals.  
Protect from frost.

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Advice on common storage : Incompatible with bases.

Storage temperature : 0 - 40 °C

**7.3 Specific end use(s)**

Specific use(s) : Treatment of metal surfaces.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value	Control parameters	Update	Basis
Nitric Acid	7697-37-2	STEL	1 ppm 2.6 mg/m <sup>3</sup>	2009-12-19	2006/15/EC
Further information	:	Indicative			
		STEL	1 ppm 2.6 mg/m <sup>3</sup>	2007-08-01	GB EH40
Hydrofluoric Acid	7664-39-3	TWA	1.8 ppm 1.5 mg/m <sup>3</sup>	2009-12-19	2000/39/EC
Further information	:	Indicative			
		STEL	3 ppm 2.5 mg/m <sup>3</sup>	2009-12-19	2000/39/EC
Further information	:	Indicative			
		TWA	1.8 ppm Fluorine 1.5 mg/m <sup>3</sup> Fluorine	2005-04-06	GB EH40

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Further information	:	Fluorine			
		STEL	3 ppm Fluorine 2.5 mg/m <sup>3</sup> Fluorine	2005-04-06	GB EH40
Further information	:	Fluorine			

### DNEL/DMEL

Nitric Acid

: End Use: Workers DNEL  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 1.3 mg/m<sup>3</sup>

End Use: Workers DNEL  
Exposure routes: Inhalation  
Potential health effects: Acute local effects  
Value: 2.6 mg/m<sup>3</sup>

Hydrofluoric Acid

: End Use: Workers DNEL  
Exposure routes: Inhalation  
Potential health effects: Long-term systemic effects  
Value: 1.5 mg/m<sup>3</sup>

End Use: Workers DNEL  
Exposure routes: Inhalation  
Potential health effects: Long-term local effects  
Value: 0.0015 mg/m<sup>3</sup>

## 8.2 Exposure controls

### Engineering measures

Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

Respiratory protection : For short-time or low exposures in well ventilated areas, use a half mask in combination with a filter.  
B NO

: When working in narrow, closed and low-oxygen areas (e.g. containers) use self-contained breathing apparatus (EN 133).

Hand protection

: Protective gloves complying with EN 374.  
Please observe the instructions regarding permeability and



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breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

: Fluorinated rubber  
Break through time: 480 min  
Glove thickness: 0.4 mm

: Nitrile rubber  
Break through time: 480 min  
Glove thickness: 0.35 mm

: butyl-rubber  
Break through time: 480 min  
Glove thickness: 0.5 mm

: Natural Rubber  
Break through time: 480 min  
Glove thickness: 0.5 mm

: PVC  
Break through time: 480 min  
Glove thickness: 0.5 mm

: Polychloroprene  
Break through time: 480 min  
Glove thickness: 0.5 mm

Eye protection : Tightly fitting safety goggles  
Eye protection (EN 166)

Skin and body protection : Chemical resistant protective clothing according to DIN EN 13034 (Type 6)

Hygiene measures : Do not breathe spray, vapour.  
Take off contaminated clothing and shoes immediately.  
Avoid contact with skin and eyes.  
Keep away from food, drink and animal feedingstuffs.

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Protective measures : Wash hands before breaks and immediately after handling the product.  
: Avoid formation of aerosol.  
Always have on hand a first-aid kit, together with proper instructions.  
Handle in accordance with good industrial hygiene and safety practice.  
Ensure that eye flushing systems and safety showers are located close to the working place.

### Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance : liquid  
Colour : colourless  
Odour : stinging  
Flash point : Not applicable  
Auto-ignition temperature : not auto-flammable  
pH : < 2  
at  
20 °C  
(undiluted)  
Melting point/range : not determined  
Boiling point/boiling range : No data available  
Vapour pressure : 23 hPa  
at 20 °C

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Density : 1.16 - 1.20 g/cm<sup>3</sup>  
Method: DIN 51757

Water solubility : completely miscible

Viscosity, dynamic : not determined

### 9.2 Other information

Corrosion : Corrosive to metals

Explosivity : Gives off hydrogen by reaction with metals.

Directive 1999/13/EC on the limitation of emissions of volatile organic compounds : Value: 0 %

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Contact with light-metals liberates hydrogen.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Gives off hydrogen by reaction with metals.

### 10.4 Conditions to avoid

Conditions to avoid : Protect from frost, heat and sunlight.

### 10.5 Incompatible materials

Materials to avoid : glass  
Attacks silicate containing materials.  
Metals  
Incompatible with bases.

### 10.6 Hazardous decomposition products

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Risk of decomposition. : No decomposition if stored and applied as directed.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

Acute oral toxicity : Acute toxicity estimate: 54.35 mg/kg  
Method: Calculation method

Acute oral toxicity  
Hydrofluoric Acid : Acute toxicity estimate: 5 mg/kg  
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : Acute toxicity estimate: 5.43 mg/l  
vapour  
Exposure time: 4 h  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 54.35 mg/kg  
Method: Calculation method

Acute dermal toxicity  
Hydrofluoric Acid : Acute toxicity estimate: 5 mg/kg  
Method: Converted acute toxicity point estimate

##### Skin corrosion/irritation

Skin irritation : Causes severe burns.

##### Serious eye damage/eye irritation

Eye irritation : Causes serious eye damage.

##### Respiratory or skin sensitisation

Sensitisation : No data available

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**Human experience** : Causes very severe, deep burns which generally heal badly.,  
Poisoning by resorption through skin possible.

### Toxicology Assessment

Acute effects : Toxic if swallowed., Toxic if inhaled., Fatal in contact with  
skin., If ingested, severe burns of the mouth and throat, as  
well as a danger of perforation of the oesophagus and the  
stomach., Corrosive to the respiratory tract.

## SECTION 12: Ecological information

### 12.1 Toxicity

Ecotoxicology studies for the product are not available.

### 12.2 Persistence and degradability

Biodegradability : No data available

### 12.3 Bioaccumulative potential

Bioaccumulation : Bioaccumulation is unlikely.

### 12.4 Mobility in soil

Mobility : No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Additional ecological information : water endangering  
: Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.  
Even leakage of small amounts in the subsoil can contaminate  
drinking water.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- Product : In accordance with local and national regulations.
- Contaminated packaging : Dispose of as unused product.
- Waste Code : Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

### SECTION 14: Transport information

#### ADR

- UN number : 2922
- UN proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S. (Hydrofluoric Acid, Nitric Acid)
- Transport hazard class(es) : 8
- Packing group : II
- Classification Code : CT1
- Hazard Identification Number : 86
- Limited Quantity (LQ) Inner : 1.00 L
- Packaging
- Maximum quantity : 30.00 KG
- Labels : 8 (6.1)
- Tunnel restriction code : (E)
- Environmentally hazardous : no

#### IATA

- UN number : 2922
- Description of the goods : Corrosive liquid, toxic, n.o.s. (Hydrofluoric Acid, Nitric Acid)
- Class : 8
- Packing group : II
- Labels : 8 (6.1)

#### IATA\_C

- Packing instruction (cargo aircraft) : 855
- Packing instruction (LQ) : Y840
- Maximum quantity : 30.00 L
- Environmentally hazardous : no

#### IATA\_P

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Packing instruction (passenger aircraft) : 851  
Packing instruction (LQ) : Y840  
Maximum quantity : 1.00 L  
Environmentally hazardous : no

### IMDG

UN number : 2922  
Description of the goods : CORROSIVE LIQUID, TOXIC, N.O.S. (Hydrofluoric Acid, Nitric Acid)  
Class : 8  
Packing group : II  
Labels : 8 (6.1)  
EmS Number 1 : F-A  
EmS Number 2 : S-B  
Limited Quantity (LQ) Inner : 1.00 L  
Packaging  
Marine pollutant : no

**Acids**  
**Clear of living quarters.**

**Acids**  
**Clear of living quarters.**

### RID

UN number : 2922  
Description of the goods : CORROSIVE LIQUID, TOXIC, N.O.S. (Hydrofluoric Acid, Nitric Acid)  
Transport hazard class(es) : 8  
Packing group : II  
Classification Code : CT1  
Hazard Identification Number : 86  
Labels : 8 (6.1)  
Limited Quantity (LQ) Inner : 1.00 L  
Packaging  
Maximum quantity : 30.00 KG  
Environmentally hazardous : no

## SECTION 15: Regulatory information

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

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REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Water contaminating class (Germany) : WGK 2 water endangering  
VWWWS A4

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.  
Regional or national implementations of GHS may not implement all hazard classes and categories.

### 15.2 Chemical Safety Assessment

For a mixture it is not mandatory to include an exposure scenario in the material safety data sheet.  
The necessary safety - related information is stated in the first 16 sections.

### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

EUH071	Corrosive to the respiratory tract.
H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H301 + H331	Toxic if swallowed or if inhaled
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.

#### Full text of Notas referred to under section 3



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### Note B

Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: "nitric acid .?.%". In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

### Further information

The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.