

---

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

### 1.1 Product identifier

Trade name : ANTOX 90 E

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

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

Recommended restrictions  
on use : None known.

### 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 / Switzerland : Tox Info Suisse  
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 4      | H332: Harmful if inhaled.                      |
| Skin corrosion, Category 1A     | H314: Causes severe skin burns and eye damage. |
| Serious eye damage, Category 1  | H318: Causes serious eye damage.               |

### 2.2 Label elements

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

|                                |   |  |
|--------------------------------|---|--|
| Hazard pictograms              | : |   |
| Signal word                    | : | Danger   |
| Hazard statements              | : | H290 May be corrosive to metals.<br>H314 Causes severe skin burns and eye damage.<br>H332 Harmful if inhaled.  |
| Supplemental Hazard Statements | : | EUH071 Corrosive to the respiratory tract.   |
| Precautionary statements       | : | <b>Prevention:</b><br>P260 Do not breathe vapours, aerosols.<br>P262 Do not get in eyes, on skin, or on clothing.<br>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.<br><b>Response:</b><br>P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.<br>P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.<br>P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P310 Immediately call a POISON CENTER/doctor.<br><b>Disposal:</b><br>P501 Dispose of contents/ container to an approved waste disposal plant. |

Hazardous components which must be listed on the label:

Nitric Acid, 13 - < 26%

### 2.3 Other hazards

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.

The information required is contained in this Material Safety Data Sheet.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Aqueous solution  
inorganic

### Hazardous components

| Chemical name           | CAS-No.<br>EC-No.<br>Registration number   | Classification<br>(REGULATION (EC)<br>No 1272/2008)   | Concentration<br>(% w/w) |
|-------------------------|--|---|--------------------------|
| Nitric Acid, 13 - < 26% | 7697-37-2<br>231-714-2<br>01-2119487297-23 | Skin Corr. 1A; H314<br>Eye Dam. 1; H318<br>Met. Corr. 1; H290<br>Acute Tox. 4; H332<br>Note B | >= 25 - < 50             |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
Move out of dangerous area.  
Take off contaminated clothing and shoes immediately.
- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.  
Call a physician immediately.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Call a physician immediately.
- If swallowed : Rinse mouth with water.  
Immediately give large quantities of water to drink.  
Do NOT induce vomiting.  
Call a physician immediately.

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

- Risks : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.  
Causes severe skin burns and eye damage.  
Corrosive to the respiratory tract.

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

- Treatment : Treat symptomatically.  
For specialist advice physicians should contact the Poisons Information Service.

---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Alcohol-resistant foam  
Water spray jet

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>)

### 5.3 Advice for firefighters

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

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.

---

## SECTION 6: Accidental release measures

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

Personal precautions : Ensure adequate ventilation.  
Wear personal protective equipment.  
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 material for containment and cleaning up

Methods for cleaning up : Ensure adequate ventilation.  
Soak up with liquid binder (sand, kieselguhr, acid binder, universal binder).  
Sweep up and shovel into suitable containers for disposal.

### 6.4 Reference to other sections

For further information see Section 8 of the safety data sheet.  
For disposal considerations see section 13.

---

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Version: 4.0

Revision Date: 28.11.2017

Print Date: 28.11.2017

- Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms. Have eye wash bottle or eye rinse ready at the work place. Avoid contact with skin and eyes. 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.
- Hygiene measures : Do not breathe vapour. Do not breathe spray. Take off contaminated clothing and shoes immediately. Avoid contact with the skin and the eyes. Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and immediately after handling the product.

### 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 container tightly closed in a dry and 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.
- Recommended 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 type (Form of exposure) | Control parameters             | Basis      |
|-------------------------|------------|-------------------------------|--------------------------------|------------|
| Nitric Acid, 13 - < 26% | 7697-37-2  | STEL                          | 1 ppm<br>2.6 mg/m <sup>3</sup> | 2006/15/EC |
| Further information     | Indicative | STEL                          | 1 ppm<br>2.6 mg/m <sup>3</sup> | GB EH40    |

### 8.2 Exposure controls

#### Engineering measures

Ensure adequate ventilation, especially in confined areas.

#### Personal protective equipment

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

Version: 4.0

Revision Date: 28.11.2017

Print Date: 28.11.2017

---

|                          |   |
|--------------------------|---|
| Hand protection          |   |
| Material                 | : butyl-rubber  |
| Remarks                  | : Protective gloves complying with EN 374. The exact break through time can be obtained from the protective glove producer and this has to be observed. Protective gloves have to be replaced at the first sign of deterioration. |
| Skin and body protection | : Chemical resistant protective clothing according to DIN EN 13034 (Type 6)   |
| Respiratory protection   | : In case of insufficient ventilation, wear suitable respiratory equipment.<br>Recommended Filter type:<br>B NO   |
| Protective measures      | : Handle in accordance with good industrial hygiene and safety practice.<br>Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.  |

---

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                              |   |
|------------------------------|---|
| Appearance                   | : clear liquid  |
| Colour                       | : colourless  |
| Odour                        | : perceptible   |
| Odour Threshold              | : No data available   |
| pH                           | : < 2 (20 °C)<br>(undiluted)  |
| Melting point/freezing point | : No data available   |
| Boiling point/boiling range  | : No data available   |
| Flash point                  | : Not applicable<br>Other information: Does not sustain combustion. |
| Evaporation rate             | : No data available   |
| Flammability (solid, gas)    | : Not applicable  |
| Upper explosion limit        | : No data available   |
| Lower explosion limit        | : No data available   |
| Vapour pressure              | : 23 hPa (20 °C)  |
| Relative vapour density      | : No data available   |

Version: 4.0

Revision Date: 28.11.2017

Print Date: 28.11.2017

---

|  |   |  |
|--|---|--|
| Relative density                       | : | No data available  |
| Density                                | : | 1.14 - 1.18 g/cm <sup>3</sup> (20 °C)<br>Method: DIN 51757 |
| Solubility(ies)                        | : |  |
| Water solubility                       | : | completely miscible  |
| Solubility in other solvents           | : | No data available  |
| Partition coefficient: n-octanol/water | : | No data available  |
| Auto-ignition temperature              | : | No data available  |
| Decomposition temperature              | : | No data available  |
| Viscosity, dynamic                     | : | No data available  |
| Viscosity, kinematic                   | : | No data available  |
| Flow time                              | : | No data available  |
| Explosive properties                   | : | no explosion risk  |
| Oxidizing properties                   | : | No data available  |

### 9.2 Other information

Metal corrosion rate : Corrosive to metals

Other physico-chemical properties: This information is not available/not determined.

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 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 : Incompatible with bases.

---

Organic materials

**10.6 Hazardous decomposition products**

No decomposition if used as directed.

---

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

**Product:**

Acute inhalation toxicity : Acute toxicity estimate: 11.87 mg/  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

**Skin corrosion/irritation**

**Product:**

Remarks: Causes severe burns.

**Serious eye damage/eye irritation**

**Product:**

Remarks: Causes serious eye damage.

**Respiratory or skin sensitisation**

**Product:**

Based on available data, the classification criteria are not met.

**Germ cell mutagenicity**

**Product:**

Based on available data, the classification criteria are not met.

**Carcinogenicity**

**Product:**

Based on available data, the classification criteria are not met.

**Reproductive toxicity**

**Product:**

Based on available data, the classification criteria are not met.

**STOT - single exposure**

**Product:**

Based on available data, the classification criteria are not met.



---

### STOT - repeated exposure

**Product:**

Based on available data, the classification criteria are not met.

### Aspiration toxicity

**Product:**

Based on available data, the classification criteria are not met.

### Further information

**Product:**

Remarks: Corrosive to the respiratory tract.

If swallowed, severe burns in the oral cavity and throat as well as danger of perforation of the digestive tract and stomach.

---

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Ecotoxicology studies for the product are not available.

### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

### 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

### 12.4 Mobility in soil

**Product:**

Mobility : Remarks: No data available

### 12.5 Results of PBT and vPvB assessment

**Product:**

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

**Product:**

Additional ecological information : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

---

## 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

### 14.1 UN number

|                  |   |  |
|------------------|---|--|
| ADR              | : | UN 2031                                |
| RID              | : | UN 2031                                |
| IMDG             | : | UN 2031                                |
| IATA (Cargo)     | : | UN 2031                                |
| IATA (Passenger) | : | UN 2031<br>Not permitted for transport |

### 14.2 UN proper shipping name

|                  |   |  |
|------------------|---|--|
| ADR              | : | NITRIC ACID<br>(Solution)                  |
| RID              | : | NITRIC ACID<br>(Solution)                  |
| IMDG             | : | NITRIC ACID<br>(Solution)                  |
| IATA (Cargo)     | : | Nitric acid<br>(Solution)                  |
| IATA (Passenger) | : | NITRIC ACID<br>Not permitted for transport |

### 14.3 Transport hazard class(es)

|                  |   |                             |
|------------------|---|-----------------------------|
| ADR              | : | 8                           |
| RID              | : | 8                           |
| IMDG             | : | 8                           |
| IATA (Cargo)     | : | 8                           |
| IATA (Passenger) | : | Not permitted for transport |

### 14.4 Packing group

|                     |   |    |
|---------------------|---|----|
| ADR                 | : |    |
| Packing group       | : | II |
| Classification Code | : | C1 |

Version: 4.0

Revision Date: 28.11.2017

Print Date: 28.11.2017

Hazard Identification Number : 80  
Labels : 8  
Tunnel restriction code : (E)

**RID**

Packing group : II  
Classification Code : C1  
Hazard Identification Number : 80  
Labels : 8

**IMDG**

Packing group : II  
Labels : 8  
EmS Code : F-A, S-B  
Remarks : Acids

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 855  
Packing group : II  
Labels : Corrosives

**IATA (Passenger)** : Not permitted for transport

**14.5 Environmental hazards**

**ADR**

Environmentally hazardous : no

**RID**

Environmentally hazardous : no

**IMDG**

Marine pollutant : no

**14.6 Special precautions for user**

Refer to protective measures listed in sections 7 and 8.

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

Not applicable for product as supplied.

---

**SECTION 15: Regulatory information**

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Version: 4.0

Revision Date: 28.11.2017

Print Date: 28.11.2017

- Volatile organic compounds : Directive 1999/13/EC on the limitation of emissions of volatile organic compounds  
Volatile organic compounds (VOC) content: 0 %
- 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

- H290 : May be corrosive to metals.  
H314 : Causes severe skin burns and eye damage.  
H318 : Causes serious eye damage.  
H332 : Harmful if inhaled.

### Full text of other abbreviations

- Acute Tox. : Acute toxicity  
Eye Dam. : Serious eye damage  
Met. Corr. : Corrosive to metals  
Skin Corr. : Skin corrosion

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No

Version: 4.0

Revision Date: 28.11.2017

Print Date: 28.11.2017

---

1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

Other 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.

GB / EN