Antox 71 E Plus

Version: 2.0 Revision Date 19.11.2014 Print Date 01.09.2015

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

1.1 Product identifier

Trade name : Antox 71 E Plus

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)6971652956
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

Canada

CANUTEC (24 H)
TEL. (613)996-6666

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.

Classification (67/548/EEC, 1999/45/EC)

toxic	R23/24/25: Toxic by inhalation, in contact with skin

	and if swallowed.
Corrosive	R35: Causes severe burns.

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.

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 victim to fresh air and keep at rest in a position 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.

Hazardous components which must be listed on the label:

- 7697-37-2 Nitric Acid
- 7664-39-3 Hydrofluoric Acid

Labelling according to EC Directives (1999/45/EC)

Hazard pictograms :

Toxic

R-phrase(s)	:	R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
		R35	Causes severe burns.
S-phrase(s)	:	S23	Do not breathe vapours, aerosols.
		S24/25	Avoid contact with skin and eyes.
		S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
		S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
		S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
		S60	This material and its container must be disposed of as hazardous waste.

Hazardous components which must be listed on the label:
- 7697-37-2 Nitric Acid
- 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.	Classification	Classification	Concentration

	EC-No. Registration number	(67/548/EEC)	(REGULATION (EC) No 1272/2008)	[%]
Nitric Acid	7697-37-2 231-714-2 01-2119487297-23	O; R 8 C; R35 Nota B	Ox. Liq. 3; H272 Skin Corr. 1A; H314 Met. Corr. 1; H290	>= 20 - < 25
Magnesium fluoride	7783-40-6 231-995-1	Xi; R36/37/38	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	>= 10 - < 20
Hydrofluoric Acid	7664-39-3 231-634-8 01-2119458860-33	T+; R26/27/28 C; R35 Nota B	Acute Tox. 2; H330 Acute Tox. 1; H310 Acute Tox. 2; H300 Skin Corr. 1A; H314	>= 5 - < 7

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.
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 : Toxic if swallowed or if inhaled
Fatal in contact with skin.
corrosive effects
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.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : First treatment with calcium gluconate paste.
Immediately drink calcium solution (calcium tablets dissolved in water).
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	:	Heating or fire can release toxic gas.

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. 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.

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 at room temperature in the original container.
Keep containers tightly closed in a cool, well-ventilated place.

Further information on storage conditions : Avoid contact with metals.
Protect from frost, heat and sunlight.

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

Components	CAS-No.	Value	Control parameters	Update	Basis
Nitric Acid	7697-37-2	STEL	1 ppm 2.6 mg/m3	2009-12-19	2006/15/EC
Further information	: Indicative				
	7697-37-2	STEL	1 ppm	2007-08-01	GB EH40

			2.6 mg/m3		
Magnesium fluoride	7783-40-6	TWA	2.5 mg/m3 Fluorine	2007-08-01	GB EH40
Further information	: 2: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used Fluorine				
	7783-40-6	TWA	2.5 mg/m3 Fluorine	2009-12-19	2000/39/EC
Further information	: Indicative Fluorine				
Hydrofluoric Acid	7664-39-3	TWA	1.8 ppm 1.5 mg/m3	2009-12-19	2000/39/EC
Further information	: Indicative				
	7664-39-3	STEL	3 ppm 2.5 mg/m3	2009-12-19	2000/39/EC
Further information	: Indicative				
	7664-39-3	TWA	1.8 ppm Fluorine 1.5 mg/m3 Fluorine	2005-04-06	GB EH40
Further information	: Fluorine				
	7664-39-3	STEL	3 ppm Fluorine 2.5 mg/m3 Fluorine	2005-04-06	GB EH40
Further information	: Fluorine				

DNEL/DMEL

Nitric Acid : End Use: DNEL, Workers

		Exposure routes: Inhalation Potential health effects: Acute local effects Value: 2.6 mg/m3 End Use: DNEL, Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1.3 mg/m3
Hydrofluoric Acid	:	End Use: DNEL, Workers, Industrial use Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 1.5 mg/m3 End Use: DNEL, Workers, Industrial use Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 0.0015 mg/m3

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection	:	Self-contained breathing apparatus (EN 133)
Hand protection	:	Viton (R) 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. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
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. Wash hands before breaks and immediately after handling the product.
Protective measures	:	Avoid formation of aerosol. Always have on hand a first-aid kit, together with proper in-

structions.
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	:	paste
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
Density	:	1.25 g/cm3 at 20 °C
Water solubility	:	completely miscible

Viscosity, dynamic	:	not determined

9.2 Other information

Corrosion	:	Corrosive to metals
Explosivity	:	Gives off hydrogen by reaction with metals.

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	:	To avoid thermal decomposition, do not overheat. 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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	:	Acute toxicity estimate: 79.37 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: 7.94 mg/l
vapour
Exposure time: 4 h
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 79.37 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

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

Toxicology Assessment

Acute effects : Toxic if swallowed or if inhaled, Fatal in contact with skin., 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

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	:	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.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local 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
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
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 Packaging	:	1.00 L
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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Neither banned nor restricted
Water contaminating class (Germany)	:	WGK 2 water endangering VWVWS 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

A Chemical Safety Assessment has been carried out for one or more substance(s) of the mixture.
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 R-phrases referred to under sections 2 and 3

R 8	Contact with combustible material may cause fire.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed.
R35	Causes severe burns.
R36/37/38	Irritating to eyes, respiratory system and skin.

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

H272	May intensify fire; oxidiser.
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.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.

Full text of Notas referred to under section 3

Nota B	Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different labelling since the hazards vary at different concentrations. In Annex I entries with Note B have a general designation of the following type: nitric acid ....%. In this case the manufacturer or any other person who markets such a substance in aqueous solution must state the percentage concentration of the solution on the label. Example: nitric acid 45 %. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis. The use of additional data (e.g. specific gravity, degrees Baumé) or descriptive phrases (e.g. fuming or glacial) is permissible.

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.