

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

### 1.1 Product identifier

Trade name **Aluminum oxide, Refractory Brushable Paint, Water-based**

Stock number: 44887

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

Identified use: SU24 Scientific research and development

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

#### Manufacturer/Supplier:

Thermo Fisher (Kandel) GmbH  
Zeppelinstr. 7b  
76185 Karlsruhe / Germany  
Tel: +49 (0) 721 84007 280  
Fax: +49 (0) 721 84007 300  
Email: tech@alfa.com  
www.alfa.com

Informing department: Product safety Tel + +049 (0) 7275 988687-0

### 1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)  
Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

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

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C: Corrosive

R34: Causes burns.

#### Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Other hazards that do not result in classification No information known.

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

#### Hazard pictograms



GHS05

Signal word Danger

#### Hazard statements

H314 Causes severe skin burns and eye damage.

#### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Dangerous components:

CAS: 7697-37-2	Nitric acid	C R35; O R8 Ox. Liq. 3, H272; Skin Corr. 1A, H314	3,0%
EINECS: 231-714-2			
Index number: 007-004-00-1			

Additional information None known.

#### Non-Hazardous Ingredients

CAS: 1344-28-1	Aluminium oxide	substance with a Community workplace exposure limit	55,0%
EINECS: 215-691-6			
CAS: 1318-23-6	Boehmite		5,0%
EINECS: 215-284-3			
CAS: 7732-18-5	Water		37,0%
EINECS: 231-791-2			

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.

#### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

#### After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Seek medical treatment.

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

Causes severe skin burns.

Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing agents** Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

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

If this product is involved in a fire, the following can be released:

Nitrogen oxides (NOx)

Aluminum oxide

#### 5.3 Advice for firefighters

##### Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

### SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

#### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

**Prevention of secondary hazards:** No special measures required.

#### 6.4 Reference to other sections

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

**Information about protection against explosions and fires:** The product is not flammable

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

##### Storage

**Requirements to be met by storerooms and containers:** No special requirements.

##### Information about storage in one common storage facility:

Store away from strong bases.

Water reacts with many metals to give hydrogen, often violently. Water also reacts violently with many reactive organic and inorganic chemicals.

##### Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Store in a locked cabinet or with access restricted to technical experts or their assistants.

**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

#### 8.1 Control parameters

##### Components with critical values that require monitoring at the workplace:

##### 1344-28-1 Aluminium oxide (55,0%)

AGW (Germany) Long-term value: 3\* 10\*\* mg/m<sup>3</sup>  
2(II);\*alveolengängige \*\*einatembare Fraktion; AGS

PEL (USA) Long-term value: 15\*; 15\*\* mg/m<sup>3</sup>

\*Total dust; \*\* Respirable fraction

REL (USA) Long-term value: 10\* 5\*\* mg/m<sup>3</sup>

\*Total dust \*\*Respirable fraction

TLV (USA) Long-term value: 1\* mg/m<sup>3</sup>

as Al; \*as respirable fraction

##### 7697-37-2 Nitric acid (3,0%)

AGW (Germany) Long-term value: 2,6 mg/m<sup>3</sup>, 1 ppm  
EU, 13, 16

PEL (USA) Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

REL (USA) Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

TLV (USA) Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

Long-term value: 5,2 mg/m<sup>3</sup>, 2 ppm

**Additional information:** No data

#### 8.2 Exposure controls

##### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Do not inhale dust / smoke / mist.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use breathing protection with high concentrations.

##### Recommended filter device for short term use:

Use a respirator with acid gas cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

##### Protection of hands:

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

##### Material of gloves

**Penetration time of glove material (in minutes)** Not determined

##### Eye protection:

Tightly sealed safety glasses.

Full face protection

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**Body protection:** Protective work clothing.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Viscous liquid  
**Colour:** White  
**Smell:** Not determined  
**Odour threshold:** Not determined.

**pH-value:** Not determined.

**Change in condition**

**Melting point/Melting range:** Not determined  
**Boiling point/Boiling range:** Not determined  
**Sublimation temperature / start:** Not determined  
**Inflammability (solid, gaseous)** Not determined.  
**Ignition temperature:** Not determined  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Product is not selfigniting.

**Danger of explosion:** Not determined.

**Critical values for explosion:**

**Lower:** Not determined  
**Upper:** Not determined  
**Steam pressure at 20 °C:** 23 hPa  
**Density** Not determined  
**Relative density** Not determined.  
**Vapour density** Not determined.  
**Evaporation rate** Not determined.  
**Solubility in / Miscibility with**  
**Water:** Partly soluble  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
**dynamic:** Not determined.  
**kinematic:** Not determined.

**Solvent content:**  
**Organic solvents:** 0,0 %

**Solids content:** 55,0 %  
**9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No information known.

**10.2 Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions**

Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.

Water reacts violently with alkali metals.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** Bases

**10.6 Hazardous decomposition products:**

Nitrogen oxides (NO<sub>x</sub>)  
Aluminum oxide

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:**

**7697-37-2 Nitric acid**

Inhalative | LC50/4H | 0,13 mg/l/4H (rat)

**Skin irritation or corrosion:** Causes severe skin burns.

**Eye irritation or corrosion:** Causes serious eye damage.

**Sensitization:** No sensitizing effect known.

**Germ cell mutagenicity:** No effects known.

**Carcinogenicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Corrosive

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic toxicity:** No further relevant information available.

**12.2 Persistence and degradability** No further relevant information available.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

**Additional ecological information:**

**General notes:**

Generally not hazardous for water.

Avoid transfer into the environment.

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

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12.6 Other adverse effects No further relevant information available.

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleaning agent:** Water, if necessary with cleaning agent.

**SECTION 14: Transport information**

**UN-Number**

**ADR, IMDG, IATA**

UN1760

**14.2 UN proper shipping name**

**ADR**

**IMDG, IATA**

1760 CORROSIVE LIQUID, N.O.S. (NITRIC ACID)  
CORROSIVE LIQUID, N.O.S. (NITRIC ACID)

**14.3 Transport hazard class(es)**

**ADR**



**Class**

**Label**

**IMDG, IATA**

8 (C9) Corrosive substances.

8



**Class**

**Label**

8 Corrosive substances.

8

**Packing group**

**ADR, IMDG, IATA**

III

**14.5 Environmental hazards:**

**Marine pollutant:**

No

**14.6 Special precautions for user**

**Kemler Number:**

**EMS Number:**

**Segregation groups**

Warning: Corrosive substances.

80

F-A,S-B

Acids

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC**

**Code**

Not applicable.

**Transport/Additional information:**

**ADR**

**Excepted quantities (EQ):**

**Limited quantities (LQ)**

**Transport category**

**Tunnel restriction code**

E1

5L

3

E

**UN "Model Regulation":**

UN1760, CORROSIVE LIQUID, N.O.S. (NITRIC ACID), 8, III

**SECTION 15: Regulatory information**

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

**Australian Inventory of Chemical Substances**

1344-28-1 Aluminium oxide

7697-37-2 Nitric acid

7732-18-5 Water

**Standard for the Uniform Scheduling of Drugs and Poisons**

7697-37-2 Nitric acid

S5, S6

**National regulations**

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

For use only by technically qualified individuals.

**Classification according to VbF:** Not applicable

**Water hazard class:** Generally not hazardous for water.

**Other regulations, limitations and prohibitive regulations**

**ELINCS (European List of Notified Chemical Substances)**

None of the ingredients is listed.

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.**

None of the ingredients are listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

None of the ingredients is listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)**

None of the ingredients is listed.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Relevant phrases**

H272 May intensify fire; oxidiser.

H314 Causes severe skin burns and eye damage.

R35 Causes severe burns.

R8 Contact with combustible material may cause fire.

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Department issuing SDS: Global Marketing Department

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**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
vPvB: very Persistent and very Bioaccumulative  
ACGIH: American Conference of Governmental Industrial Hygienists (USA)  
OSHA: Occupational Safety and Health Administration (USA)  
NTP: National Toxicology Program (USA)  
IARC: International Agency for Research on Cancer  
EPA: Environmental Protection Agency (USA)

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