

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: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
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
Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS05

Signal word
Hazard statements
Precautionary statements

Danger
H314 Causes severe skin burns and eye damage.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Remove/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 EINECS: 231-714-2	Nitric acid	 C R35;  O R8	3,0%
Additional information		None known.	
Non-Hazardous Ingredients			
CAS: 1344-28-1 EINECS: 215-691-6	Aluminium oxide	substance with a Community workplace exposure limit	55,0%
CAS: 1318-23-6 EINECS: 215-284-3	Boehmite		5,0%
CAS: 7732-18-5 EINECS: 231-791-2	Water		37,0%

Additional information

Non-Hazardous Ingredients

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SECTION 4: First aid measures

4.1 Description of first aid measures

General information
After inhalation

Instantly remove any clothing soiled by the product.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
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

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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

(Contd. of page 1)

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. Do not allow to enter the ground/soil.
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 item 13. Ensure adequate ventilation.
Prevention of secondary hazards: 6.4 Reference to other sections	No special measures required. 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: Information about storage in one common storage facility:	No special requirements. 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.
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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 ³ 2(II);*alveolengängige **einatembare Fraktion; AGS
PEL (USA)	Long-term value: 15*; 15** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ *Total dust **Respirable fraction
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction

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

AGW (Germany)	Long-term value: 2,6 mg/m ³ , 1 ppm EU, 13, 16
PEL (USA)	Long-term value: 5 mg/m ³ , 2 ppm
REL (USA)	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5 mg/m ³ , 2 ppm
TLV (USA)	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5,2 mg/m ³ , 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.
Use breathing protection with high concentrations.

Breathing equipment:

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

Impervious gloves
Not determined

Eye protection:

Tightly sealed safety glasses.
Full face protection

(Contd. on page 3)
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Trade name **Aluminum oxide, Refractory Brushable Paint, Water-based**

Body protection: Protective work clothing.

(Contd. of page 2)

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.

10.5 Incompatible materials:

Bases

10.6 Hazardous decomposition products:

Nitrogen oxides (NOx)
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:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

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

No further relevant information available.

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:

Generally not hazardous for water.
Avoid transfer into the environment.

General notes:

Generally not hazardous for water.
Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment

Not applicable.

PBT:

Not applicable.

(Contd. on page 4)

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

(Contd. of page 3)



vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

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 Medicines and Poisons

7697-37-2	Nitric acid	S5, S6
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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.

REACH - Pre-registered substances

All ingredients are 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.

Department issuing SDS: Health, Safety and Environmental Department.

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

(Contd. on page 5)

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

(Contd. of page 4)

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)
Ox. Liq. 3: Oxidising Liquids, Hazard Category 3
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

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