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Revision Number 1

## 1. Identification

### 1.1. Product identifier

Product Code(s) 974

Product Name DISPERSING ALUMINA ADS and ADW

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

Recommended use Refractory

Uses advised against No information available

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

#### Manufacturer

Almatis GmbH  
Lyoner Str. 9  
60528 Frankfurt  
Germany  
+ 49 69 9573410

For further information, please contact

E-mail address info@almatis.com

### 1.4. Emergency telephone number

Emergency Telephone +1 501-776-4677 3E Global Incident Response Hotline (Almatis access code: 334735)

Emergency Telephone - §45 - (EC)1272/2008

Europe 112

## 2. Hazard(s) identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

### 2.2. Label elements

#### Hazard statements

EUH210 - Safety data sheet available on request

### 2.3. Other hazards

## 3. Composition/information on ingredients

### 3.1 Substances

Not applicable

**3.2 Mixtures**

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Aluminum oxide	215-691-6	1344-28-1	>75	-	01-2119529248-35-0024 01-2119529248-35-0125 01-2119529248-35-0086 01-2119529248-35-0087
Boric acid	233-139-2	10043-35-3	0-5	Repr. 1B (H360FD)	-

**Full text of H- and EUH-phrases: see section 16**

This product contains one or more candidate substance(s) of very high concern (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No	SVHC candidates
Boric acid	10043-35-3	X

**4. First-aid measures****4.1. Description of first aid measures**

<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Self-protection of the first aider</b>	Do not breathe dust.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	Contact with dust can cause mechanical irritation or drying of the skin.
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**4.3. Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
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**5. Fire-fighting measures****5.1. Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	No information available.

**5.2. Special hazards arising from the substance or mixture**

<b>Specific hazards arising from the</b>	Avoid generation of dust. Fine dust dispersed in air may ignite.
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chemical

### 5.3. Advice for firefighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## **6. Accidental release measures**

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

**Personal precautions** Ensure adequate ventilation. Avoid generation of dust. Avoid contact with eyes. Use personal protective equipment as required. Do not breathe dust. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

**Environmental precautions** See Section 12 for additional Ecological Information.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so. Prevent dust cloud.

**Methods for cleaning up** Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## **7. Handling and storage**

### 7.1. Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges.

**General hygiene considerations** Do not breathe dust.

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

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

### 7.3. Specific end use(s)

**Risk Management Methods (RMM)** The information required is contained in this Material Safety Data Sheet.

## 8. Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Aluminum oxide 1344-28-1	-	TWA: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-
Boric acid 10043-35-3	-	-	-	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Aluminum oxide 1344-28-1	-	TWA: 10 mg/m <sup>3</sup>	-	-	TWA: 5 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
Boric acid 10043-35-3	-	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>	-	-	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Aluminum oxide 1344-28-1	TWA: 5 mg/m <sup>3</sup> STEL 10 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup> STEL: 24 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup> TWA: 1.2 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> STEL: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> STEL: 12 mg/m <sup>3</sup>
Boric acid 10043-35-3	-	TWA: 1.8 mg/m <sup>3</sup> STEL: 1.8 mg/m <sup>3</sup>	-	-	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>

#### Biological occupational exposure limits

Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Aluminum oxide 1344-28-1	-	60 µg/g creatinine - urine (Aluminum) - no restrictions	-	-	-

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering controls** Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems.

#### Personal protective equipment

**Eye/face protection** If splashes are likely to occur, wear safety glasses with side-shields.

**Hand protection** Wear suitable gloves.

**Skin and body protection** If there is a risk of contact: Wear suitable protective clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Do not breathe dust.

**Environmental exposure controls** Avoid release to the environment. Avoid creating dust.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Solid Powder
Appearance	white Powder
Color	white
Odor	None.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	Not applicable
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	No information available
Vapor density	No data available	No information available
Relative density	No data available	None known
Water solubility	Partly soluble	
Solubility(ies)	No data available	
Partition coefficient	No data available	None known
Autoignition temperature	No data available	No information available
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	No information available
Dynamic viscosity	No data available	No information available
Explosive properties	No information available	
Oxidizing properties	No information available	

### 9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	3.9 g/cm <sup>3</sup>
Bulk density	900-1000 kg/m <sup>3</sup>

## 10. Stability and reactivity

### 10.1. Reactivity

Reactivity	No information available.
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### 10.2. Chemical stability

Stability	Stable under normal conditions.
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### Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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**10.4. Conditions to avoid**

**Conditions to avoid** Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

**10.5. Incompatible materials**

**Incompatible materials** None known based on information supplied.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

**11. Toxicological information****11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Dust contact with the eyes can lead to mechanical irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum oxide	> 5000 mg/kg ( Rat )		
Boric acid	= 2660 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 0.16 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## 12. Ecological information

### 12.1. Toxicity

**Ecotoxicity** Aquatic toxicity is unlikely due to low solubility. Not considered to be harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Boric acid	-	LC50: =1020mg/L (72h, Carassius auratus)	-	EC50: 115 - 153mg/L (48h, Daphnia magna)

### 12.2. Persistence and degradability

**Persistence and degradability** Product is not biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulation** Does not bioaccumulate.

### Component Information

Chemical name	Partition coefficient
Boric acid	-0.757

### 12.4. Mobility in soil

**Mobility in soil** No information available.

### 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment** .

Chemical name	PBT and vPvB assessment
Aluminum oxide	The substance is not PBT / vPvB PBT assessment does not apply
Boric acid	The substance is not PBT / vPvB PBT assessment does not apply

### 12.6. Other adverse effects

**Other adverse effects** No information available.

## 13. Disposal considerations

### 13.1. Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. Transport information****IMDG**

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

**RID**

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Provisions	None

**ADR**

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Provisions	None

**IATA**

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Provisions	None

**15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Authorizations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Boric acid - 10043-35-3	30.	

**Persistent Organic Pollutants**

Not applicable



**Ozone-depleting substances (ODS) regulation (EC) 1005/2009** Not applicable

**International Inventories**

<b>TSCA</b>	Contact supplier for inventory compliance status
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status
<b>ENCS</b>	Contact supplier for inventory compliance status
<b>IECSC</b>	Contact supplier for inventory compliance status
<b>KECL</b>	Contact supplier for inventory compliance status
<b>PICCS</b>	Contact supplier for inventory compliance status
<b>AICS</b>	Contact supplier for inventory compliance status

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**15.2. Chemical safety assessment**

**Chemical Safety Report** No information available

**16. Other information**

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Full text of H-Statements referred to under section 3**

H360FD - May damage fertility. May damage the unborn child

**Legend**

SVHC: Substances of Very High Concern for Authorization:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

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**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**