

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 1 / 13

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

1.1 Product identifier

Valid for all product variants

| | |
|---------------|---------------------|
| IUPAC | Aluminium hydroxide |
| EINECS/ELINCS | 244-492-7 |
| CAS | 21645-51-2 |

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

1.2.1 Relevant uses

Additive, flame retardant, filler, pigment, ground chemical, health care, personal care, viscosity adjustor

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

| | |
|------------------------------|--|
| Company | Nabaltec AG Postfach 1860 92409 Schwandorf / GERMANY Phone +49 (0) 9431-53-0 Fax +49 (0) 9431-53-289 Homepage www.nabaltec.de E-mail info@nabaltec.de |
| Manufacturer | Naprotec LLC 78 Bob Ray Rd. 37415 Chattanooga, TN / USA Phone (361) 777-2280 |
| Address enquiries to | |
| Technical information | Nabaltec AG info@nabaltec.de |
| Safety Data Sheet | sdb@chemiebuero.de (No dispatch of safety data sheets) Safety data sheets are available from the supplier. |

1.4 Emergency telephone number

| | |
|----------------|--|
| Company | +49 (0)9431 53222 (24h) +49 (0)9431 530 (24h) |
|----------------|--|

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

No classification.

2.2 Label elements

| | |
|--------------------------|------|
| Hazard pictograms | |
| Hazard statements | None |

2.3 Other hazards

| | |
|------------------------------|---|
| Human health dangers | Prolonged and excessive contact can cause irritation of the respiratory tract. Contains no ingredients with endocrine-disrupting properties. |
| Environmental hazards | Does not contain any PBT or vPvB substances. |
| Other hazards | None This product is classified as non-hazardous in accordance to OSHA Standard 29 CFR 1910.1200. |

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 2 / 13

SECTION 3: Composition / Information on ingredients

3.1 Substances

The product is a substance.

| Range [%] | Substance |
|-----------|--|
| 100 | Aluminium hydroxide CAS: 21645-51-2 |

Comment on component parts No dangerous components.

3.2 Mixtures

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|----------------------------|--|
| General information | Change powdered clothing. |
| Inhalation | Ensure supply of fresh air. In the event of symptoms seek medical treatment. |
| Skin contact | When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists. |
| Eye contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In the event of symptoms seek medical treatment. |
| Ingestion | Rinse out mouth and give plenty of water to drink. In the event of symptoms seek medical treatment. |

4.2 Most important symptoms and effects, both acute and delayed

None

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

| | |
|--|---|
| Suitable extinguishing media | Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered. |
| Extinguishing media that must not be used | Full water jet |

5.2 Special hazards arising from the substance or mixture

None

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use breathing apparatus if exposed to dust.
Avoid dust formation.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 3 / 13

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Avoid raising dust.
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid the formation and deposition of dust.
Provide vacuuming if dust raised.

Wash hands before breaks and after work.
Use barrier skin cream.
Do not eat, drink, smoke or take drugs at work.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.
Do not store together with food and animal food/diet.
Store in a dry place.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (US)

Not applicable

DNEL

| |
|---|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| Industrial, inhalative, Long-term - local effects, 10,76 mg/m ³ |
| Industrial, inhalative, Long-term - systemic effects, 10,76 mg/m ³ |
| general population, oral, Long-term - systemic effects, 4,74 mg/kg bw/day |

PNEC

| |
|---|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| There are no PNEC values established for the substance. |

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 4 / 13

8.2 Exposure controls

| | |
|--|--|
| Additional advice on system design | Ensure adequate ventilation on workstation. To pay attention to dust limit value (ACGIH-2011: 10 mg/m ³ particle inhalable; 3 mg/m ³ particle respirable). Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances. |
| Eye protection | Safety glasses. (EN 166:2001) |
| Hand protection | 0,11mm Nitrile rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information. |
| Skin protection | Protective clothing (EN 340) |
| Other | Avoid contact with eyes and skin. Do not inhale dust. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. |
| Respiratory protection | In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear appropriate respiratory protection. Short term: filter apparatus, filter P2. (DIN EN 143) |
| Thermal hazards | Not applicable |
| Delimitation and monitoring of the environmental exposition | Protect the environment by applying appropriate control measures to prevent or limit emissions. |

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 5 / 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|---------------------------------|
| Physical state | Solid |
| Form | powder |
| Color | white |
| Odor | odorless |
| Odor threshold | Not applicable |
| pH-value | 8 - 9 (20°C) Saturated solution |
| pH-value [1%] | Not determined |
| Boiling point or initial boiling point and boiling range [°C] | 2980 |
| Flash point [°C] | Not applicable |
| Flammability | Not applicable |
| Lower explosion limit | Not applicable |
| Upper explosion limit | Not applicable |
| Oxidizing properties | No |
| Vapor pressure/gas pressure [kPa] | Not applicable |
| Density [g/cm ³] | 2,4 (20 °C / 68,0 °F) |
| Relative density | Not determined |
| Bulk density [kg/m ³] | Not determined |
| Solubility in water | 0,00009 g/l (20°C) |
| Solubility other solvents | Not applicable |
| Partition coefficient n-octanol/water (log value) | Not applicable |
| Kinematic viscosity | Not applicable |
| Relative vapour density | Not applicable |
| Melting point [°C] | Not applicable |
| Auto-ignition temperature [°C] | Not applicable |
| Decomposition temperature [°C] | > 200 |
| Particle characteristics | Not applicable |

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Strong heating, because the thermal decomposition starts from 200°C.

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 6 / 13

10.5 Incompatible materials

Reactions with strong acids and alkalies.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 7 / 13

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

| |
|--|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| LD50, oral, Rat, > 2000 mg/kg |
| NOAEL, oral, Rat, 30 mg/kg bw/day chronic (analogon) |

Acute dermal toxicity

Acute inhalational toxicity

| |
|--|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| LC50, inhalative, Rat, 7,6 mg/l 1h |
| NOAEC, inhalative, Rat, 70 mg/m ³ subchronic (analogon) |

Serious eye damage/irritation Non-corrosive / non-irritating.

| |
|--------------------------------------|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| Eye, non-irritating |

Skin corrosion/irritation Non-corrosive / non-irritating.

| |
|--------------------------------------|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| dermal, non-irritating |

Respiratory or skin sensitisation Non-sensitizing.

| |
|--------------------------------------|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| dermal, non-sensitizing |
| inhalative, non-sensitizing |

Specific target organ toxicity — single exposure No classification.

| |
|--|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| inhalative, no adverse effect observed |

Specific target organ toxicity — repeated exposure No classification.

Mutagenicity

There is no evidence of any mutagenic effects.

Reproduction toxicity

There is no evidence of any reproductive toxicity effects.

Carcinogenicity

There is no evidence of any carcinogenic effects.

Aspiration hazard

No classification.

General remarks

None

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 8 / 13

SECTION 12: Ecological information

12.1 Toxicity

| |
|---|
| Substance |
| Aluminium hydroxide, CAS: 21645-51-2 |
| LC50, Salmo trutta, > 100 mg/l |
| EC50, Daphnia magna, > 100 mg/l |
| EC50, Selenastrum capricornutum, > 100 mg/l |

12.2 Persistence and degradability

| | |
|---------------------------------------|----------------|
| Behaviour in environment compartments | Not applicable |
| Behaviour in sewage plant | Not applicable |
| Biological degradability | Not applicable |

12.3 Bioaccumulative potential

Not applicable

12.4 Mobility in soil

Not applicable

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Endocrine disrupting properties

Contains no ingredients with endocrine-disrupting properties.

12.7 Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

For recycling, consult manufacturer.

Contaminated packaging

Uncontaminated packaging may be reused.

RCRA Hazard Class (40CFR 261)

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities.

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 9 / 13

SECTION 14: Transport

14.1 UN number

Transport by land according to ADR/RID Not applicable

Inland navigation (ADN) Not applicable

Marine transport in accordance with IMDG Not applicable

Air transport in accordance with IATA Not applicable

DOT Road Shipment Information (49 CFR) Not applicable

14.2 UN proper shipping name

Transport by land according to ADR/RID NO DANGEROUS GOODS

Inland navigation (ADN) NO DANGEROUS GOODS

Marine transport in accordance with IMDG NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"

DOT Road Shipment Information (49 CFR) NOT CLASSIFIED AS "DANGEROUS GOODS"

14.3 Transport hazard class(es)

Transport by land according to ADR/RID Not applicable

Inland navigation (ADN) Not applicable

Marine transport in accordance with IMDG Not applicable

Air transport in accordance with IATA Not applicable

DOT Road Shipment Information (49 CFR) Not applicable

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 10 / 13

14.4 Packing group

Transport by land according to ADR/RID Not applicable

Inland navigation (ADN) Not applicable

Marine transport in accordance with IMDG Not applicable

Air transport in accordance with IATA Not applicable

DOT Road Shipment Information (49 CFR) Not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID No

Inland navigation (ADN) No

Marine transport in accordance with IMDG No

Air transport in accordance with IATA No

DOT Road Shipment Information (49 CFR) No

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

Not applicable

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 11 / 13

SECTION 15: Regulatory information

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

US Regulations

National regulations

29 CFR 1910.1200-HCS 2012, OSHA-PEL, ACGIH-TLV, NTP, IARC, SARA Title III, NFPA, TSCA, California - Prop. 65

- SARA, 302

This product does not contain any ingredients regulated under this list.

- SARA, 311

This product does not contain any ingredients regulated under this list.

- SARA, 313

This product does not contain any ingredients regulated under this list.

- CA Proposition 65

No chemical substances in this material are named on the California P65 list.

- TSCA

All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.

- FDA

American Conference of Governmental Industrial Hygienists - ACGIH

Ingredients not listed as carcinogens.

International Agency for Research on Cancer IARC

Ingredients not listed as carcinogens.

National Toxicology Program - NTP

This product is not named NTP - National Toxicology Program.

HAP-VOC

Not applicable

Transport-regulations

DOT-Classification, ADR (2023); IMDG-Code (2023, 41. Amdt.); IATA-DGR (2024)

15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 12 / 13

SECTION 16: Other information

16.1 Abbreviations and acronyms:

ACGIH = American Conference of Governmental Industrial Hygienists;
ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route;
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses;
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure;
CAS = Chemical Abstracts Service;
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act;
CFR = Code of Federal Regulations;
CPR = Controlled Products Regulations;
DMEL = Derived Minimum Effect Level;
DNEL = Derived No Effect Level;
DOT = Department of Transportation;
EC50 = Median effective concentration;
EPA = Environmental Protection Agency;
GHS = Globally Harmonized System of Classification and Labelling of Chemicals;
IATA = International Air Transport Association;
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
IC50 = Inhibition concentration, 50%;
IMDG = International Maritime Code for Dangerous Goods;
IARC = International Agency of Research on Cancer;
IATA = International Air Transport Association;
TSCA = Toxic Substance Control Act;
HMIS = Hazardous Materials Identification System;
NFPA = National Fire Protection Association;
NIOSH = National Institute for Occupational Safety and Health;
OSHA = Occupational Safety and Health Administration;
LC50 = Lethal concentration, 50%;
LD50 = Median lethal dose, 50%;
MARPOL = International Convention for the Prevention of Marine Pollution from Ships;
PBT = Persistent, Bioaccumulative and Toxic substance;
PNEC = Predicted No-Effect Concentration;
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals;
SARA = Superfund Amendments and Reauthorization Act;
TLV@TWA = Threshold limit value – time-weighted average;
TLV@STEL = Threshold limit value – short-time exposure limit;
VOC = Volatile Organic Compounds;
vPvB = very Persistent and very Bioaccumulative;

16.2 Ratings

Nabaltec AG
92409 Schwandorf

Date printed 24.01.2024, Revision 18.12.2023

Version 2.0. Supersedes version: 1.0

Page 13 / 13

NFPA Ratings



TOP, FLAMMABILITY: 0 - Minimal Hazard
LEFT, HEALTH: 1 - Slight Hazard
RIGHT, REACTIVITY: 0 - Minimal Hazard
BOTTOM, SPECIAL NOTICE: 20.NFPA.X0

HMIS Ratings

| | | |
|---------------------|---|--------------------|
| HEALTH | 1 | 1 - Slight Hazard |
| FLAMMABILITY | 0 | 0 - Minimal Hazard |
| PHYSICAL HAZARD | 0 | 0 - Minimal Hazard |
| PERSONAL PROTECTION | A | A - Safety Glasses |

PERSONAL PROTECTION:

- A - Safety Glasses
- B - Safety Glasses and Gloves
- C - Safety Glasses, Gloves and Protection Apron
- D - Face Shield, Gloves and Protection Apron
- E - Safety Glasses, Gloves and Dust Respirator
- F - Safety Glasses, Gloves, Protection Apron and Dust Respirator
- G - Safety Glasses, Gloves and Vapor Respirator.
- H - Splash Goggles, Gloves, Protection Apron and Vapor Respirator.
- I - Safety Glasses, Gloves, Dust Respirator and Vapor Respirator.
- J - Splash Goggles, Gloves, Protection Apron, Dust Respirator and Vapor Respirator.
- K - Airline Mask or Hood, Gloves, Full Suit and Boots.
- X - Personal protection rating to be supplied by user depending on use conditions

Modified position

1.3, 2.3, 9.1, 11.1, 12.6, 15.1

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