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

1.1 Product identifier

APYRAL® 40 CD

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

Nashtec LLC
4633 Highway 361
78359 Gregory, Texas / 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.

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 within 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.

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/m³
Industrial, inhalative, Long-term - systemic effects, 10,76 mg/m³
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.

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/m³ particle inhalable; 3 mg/m³ 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	Breathing apparatus in the event of high concentrations. 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.

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/cm³]	2,4 (20 °C / 68,0 °F)
Relative density	Not determined
Bulk density [kg/m³]	Not determined
Solubility in water	0,00009 g/l (20°C)
Solubility other solvents	No information available.
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.

10.5 Incompatible materials

Reactions with strong acids and alkalies.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

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/m³ 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

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.

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

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

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	Not Determinated.
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.

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

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
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	A

1 - Slight Hazard
0 - Minimal Hazard
0 - Minimal Hazard
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 2.3, 3.1, 9.1, 11.1, 12.6, 15.1

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