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ISO 9001: 2015

MATERIAL SAFETY DATA SHEET

1. Identification

1.1 GHS Product identifier

Aluminium isopropoxide, 98%

Code A 1740

2. Hazard identification

2.1 Classification of the substance or mixture

Flammable solids, Category 1

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s) H228 Flammable solid

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370+P378 In case of fire: Use ... to extinguish.

Response

Storage

none

Disposal

none

2.3 Other hazards which do not result in classification

none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Aluminium isopropoxide	Aluminium isopropoxide	555-31-7	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5.Fire-fighting measures

5.1Extinguishing media

Suitable extinguishing media

Stop flow of liquid before extinguishing fire. Use dry chemical or carbon dioxide. DO NOT use water as straight stream directly on spilled material. Water fog can be used to control fire. DO NOT use halogenated extinguishing agents on spilled material. Violent reaction may result. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance. /Aluminum Alkyls/

5.2Specific hazards arising from the chemical

no data available

5.3Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures

6.1Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7.Handling and storage

7.1Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2Conditions for safe storage, including any incompatibilities

Extremely reactive with air, moisture and compounds containing active hydrogen and therefore must be kept under a blanket of inert gas. /Aluminum alkyls/

8.Exposure controls/personal protection

8.1Control parameters

Occupational Exposure limit values

Recommended Exposure Limit: 10-Hr Time-Weighted Avg: 10 mg/cu m (total). /Aluminum/

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m (resp). /Aluminum/

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 2 mg/cu m. /Aluminum (soluble salts and alkyls, as Al)/

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 5 mg/cu m. /Aluminum (pyro powders and welding fumes, as Al)/

Biological limit values

no data available

8.2Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9.Physical and chemical properties

Physical state	white solid
Colour	White solid
Odour	no data available
Melting point/ freezing point	255\u00b0C(lit.)
Boiling point or initial boiling point and boiling range	187\u00b0C(lit.)
Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	51\u00b0C(lit.)
Auto-ignition	no data available

temperature
Decomposition temperature no data available
pH no data available
Kinematic viscosity no data available
Solubility In water:REACTS
Partition coefficient n-octanol/water (log value) no data available
Vapour pressure no data available
Density and/or relative density 1.035
Relative vapour density no data available
Particle characteristics no data available

10.Stability and reactivity

10.1Reactivity

no data available

10.2Chemical stability

Low melting solids or colorless, volatile liquids. /Alkylaluminum halides/

10.3Possibility of hazardous reactions

Certain polymerization catalysts, such as aluminum alkyls, react & burn violently on contact with water. /Aluminum alkyls/

10.4Conditions to avoid

no data available

10.5Incompatible materials

Extremely reactive with air, moisture, and compounds containing active hydrogen... /Alkyl aluminum compounds/

10.6Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11.Toxicological information

Acute toxicity

Oral: LD50 Rat oral 11300 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

A4; Not classifiable as a human carcinogen. /Aluminum metal and insoluble compounds/

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12.Ecological information

12.1Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

12.2Persistence and degradability

no data available

12.3Bioaccumulative potential

no data available

12.4Mobility in soil

no data available

12.5Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: UN2925 IMDG: UN2925 IATA: UN2925

14.2 UN Proper Shipping Name

ADR/RID: FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.

IMDG: FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.

IATA: FLAMMABLE SOLID, CORROSIVE, ORGANIC, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 4.1 IMDG: 4.1 IATA: 4.1

14.4 Packing group, if applicable

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG: no IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Aluminium isopropoxide	Aluminium isopropoxide	555-31-7	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.