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THE BTTCO OVERSEAS

A Govt. of India Recognized *Star Export House*

from local roots to global routes

Material Safety Data Sheet
ALUMINIUM SULPHATE

Section 1 - Chemical Product and Company Identification

MSDS Name : ALUMINIUM SULPHATE
Chemical Name : Aluminium Sulphate
Synonyms : aluminum sulfate, Aluminium Sulphate
Molecular Weight : 342.15 g/mol
CAS No : 10043-01-3

Company Identification : The BTTCO Overseas
6, Ashirvad Complex, Nr. Sardar Patel Seva Samaj Hall,
Navrangpura, Ahmedabad – 380009

Telephone Number : +91-94265 96891
Contact Person : Mr. Dinesh Lunkad

Section 2 Composition, Information on Ingredients

Product name : Aluminum sulfate
Synonyms : aluminum sulfate, Aluminium Sulphate
CAS : 10043-01-3
EC number : 233-135-0
MF : Al2O12S3
MW : 342.15
Concentration : ≤ 100%

Section 3 Hazards Identification

GHS Label elements, including precautionary statements

HAZARD PICTOGRAM :

	
GHS05 Corrosive	**GHS07 Health Hazard-Hazardous**

Signal word : Danger

Precautionary statements

P261 : Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P304+P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 : Store locked up.

Hazard statements

H290 : May be corrosive to metals

H315 : Causes skin irritation

H318 : Causes serious eye damage

Other hazards

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

Ecological information

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 4 First Aid Measures

General advice : Show this material safety data sheet to the doctor in attendance.

Eye Contact : After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

Skin Contact : In case of skin contact: Take off immediately all contaminated

clothing. Rinse skin with water/ shower.

Inhalation : After inhalation: fresh air.

Ingestion : After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed
No data available.

Section 5 Fire Fighting Measures

Suitable extinguishing Media : Use extinguishing measures that are appropriate to local circumstances.

Unsuitable extinguishing Media : For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture : Sulfur oxides, Aluminum oxide Not combustible. Ambient fire may liberate hazardous vapors.

Advice for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA Rating

Health	**2**	Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. diethyl ether, ammonium phosphate, iodine)
FIRE	**0**	Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that

		will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes. (e.g. Carbon tetrachloride)
REACT	**0**	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, N2)
SPEC.		HAZ.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency
Personnel : Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Environmental precautions: Do not let product enter drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections: For disposal see section 13.

Section 7 - Handling and Storage

Precautions for safe handling : For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities
Storage conditions : Tightly closed. Dry. hygroscopic Store under inert gas.

Specific end use(s) : Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8 - Exposure Controls, Personal Protection

Control parameter

Hazard composition and occupational exposure limits
Does not contain substances with occupational exposure limits.

Exposure Controls
Personal protective equipment

Eye/Face Protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

Skin / Body Protection : Protective clothing

Respiratory protection : required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2. The entrepreneur must ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures must be properly documented.

Environmental Control : Do not let product enter drains.

Section 9 - Physical and Chemical Properties

Physical Properties

Appearance	: Appearance white powder
Odour	: Odourless
Odour Threshold	: Not applicable
pH	: No data available
Melting point/freezing point	: Melting point/range: 770 °C - dec.
Initial boiling point and boiling range	: 112 - 116 °C
Flash point	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: The product is not flammable. – Flammability (solids)
Upper/lower flammability or explosive limits	: No data available
Vapour pressure	: No data available
Vapour density	: No data available
Relative density	: 2.71
Water solubility	: ca.0,00001 g/l at 21,5 °C - insoluble
Partition coefficient: n-octanol/water	: Not applicable for inorganic substances
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: Viscosity, kinematic: No data available Viscosity, dynamic: No data available

Explosive properties : No data available
Oxidizing properties : No data available

Section 10 - Stability and Reactivity

Reactivity : No data available
Chemical stability : The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions : No data available
Conditions to avoid : Air Exposure to moisture. no information available
Incompatible materials : No data available
Hazardous decomposition products : In the event of fire: see section 5

Section 11 - Toxicological Information

Information on toxicological effects

Acute toxicity : LD50 Oral - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 401)
LD50 Dermal - Rabbit - male and female - > 5.000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation : Skin – Rabbit
Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye Irritation : Eyes - Rabbit
Result: Irreversible effects on the eye (OECD Test Guideline 405)

Respiratory or skin Sensitization : (OECD Test Guideline 429)

Germ cell mutagenicity : Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476

Result: negative

Test Type: Micronucleus test
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative

Test Type: Micronucleus test Species: Rat
Application Route: Oral
Method: OECD Test Guideline 474 Result: negative
Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: aluminium hydroxide
Species: Rat Application Route: Oral
Remarks: Cytogenetic analysis

Carcinogenicity : No data available
Reproductive toxicity : No data available
Specific target organ toxicity – single exposure : No data available
Specific target organ toxicity – repeated exposure : No data available
Aspiration hazard : No data available

Section 12 - Ecological Information

Toxicity

Toxicity to fish : semi-static test LC50 - Danio rerio (zebra fish) - > 87,5 mg/l 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates : static test EC50 - Daphnia magna (Water flea) - > 200 mg/l – 48 h (OECD Test Guideline 202)

Toxicity to algae : static test ErC50 - Pseudokirchneriella subcapitata (microalgae) - 0,24 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria : static test EC50 - activated sludge - > 200 mg/l - 3 h (OECD Test Guideline 209)

Persistence and Degradability : The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative Potential : No data available

Mobility in soil : No data available

Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent an very bio accumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects : No data available

Section 13 - Disposal Considerations

Disposal Methods : Pretreatment involves hydrolysis followed by neutralization with NaOH. The insoluble aluminum hydroxide formed is removed by filtration and can be heated to decomposition to yield alumina which has valuable industrial applications. The neutral solution of sodium sulfate can be discharged into sewers and waterways if its concentration is below the recommended provisional limit of 250 mg/L.

Incompatibilities : In aqueous solution, aluminum sulfate forms sulfuric acid. reacts with bases and many other substances. Corrodes metals, some plastics and body tissues, especially in the presence of moisture.

Section 14 – Transport Information

DOT/IMO/IMDG/ADR/RID/IATA Shipping Requirements

Shipping Name	: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (aluminium sulfate)
Technical Name	: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (aluminium sulfate)
Hazard Class	: Class- 8
UN/NA Number	: UN 3260
Packing Group	: III
Label(s)	: Corrosive
Marine Pollutant	: No
Special precautions	: No data available

Section 15 -Regulatory Information

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

Regulations on the Safety Management of Hazardous Chemicals
China Catalog of Hazardous chemicals 2015 : Not Listed. website: https://www.mem.gov.cn/

Measures for Environmental Management of Substances

- New Zealand Inventory of Chemicals (NZIoC): Listed. website: https://www.epa.govt.nz/
- Korea Existing Chemicals List (KECL): Listed. website: http://ncis.nier.go.kr
- EC Inventory: Listed.
- European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: https://echa.europa.eu/
- Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: https://emb.gov.ph/
- Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: https://www.mee.gov.cn/
- Vietnam National Chemical Inventory: Listed. website: https://chemicaldata.gov.vn/
- United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: https://www.epa.gov/

Section 16 - Other Information

Abbreviations and acronyms

CAS : Chemical Abstracts Service
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
RID : Regulation concerning the International Carriage of Dangerous Goods by Rail
IMDG : International Maritime Dangerous Goods
IATA : International Air Transportation Association
TWA : Time Weighted Average
STEL : Short term exposure limit
LC50 : Lethal Concentration 50%
LD50 : Lethal Dose 50%
EC50 : Effective Concentration 50%

References

1) CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
2) ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
3) ECHA - European Chemicals Agency, website: https://echa.europa.eu/
4) eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
5) ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
6) Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
7) HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
8) IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
9) IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
10) Sigma-Aldrich, website: https://www.sigmaaldrich.com/

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