SURAJ CHEMICALS
AN ISO 9001:2015 CERTIFIED COMPANY

SDS-ACTIVATEDALU 09 Aug 2026

SAFETY DATA SHEET

ACTIVATED ALUMINA (IS 9700-1981)

CAS No.: 1344-28-1

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

ACTIVATED ALUMINA (IS 9700-1981)
Activated Alumina Balls; Aluminium Oxide; Alumina; Alpha-Alumina
CAS: 1344-28-1

Other means of identification

Formula: Al_2O_3 (contains approx. 11–12% bound water) | Molecular weight: 101.96 | Manufactured/graded to IS 9700-1981

Recommended use of the chemical and restrictions on use

Relevant uses: Desiccant/adsorbent for drying and purification of gases and liquids (e.g. compressed air/gas dryers), laboratory reagent, catalyst support/fluoride removal media. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Activated alumina (aluminium oxide, CAS 1344-28-1) does not carry a harmonised GHS classification and is not classified as a hazardous substance under GHS physical, health or environmental hazard criteria based on well-established public data for this CAS number. It is treated as a nuisance/particulate dust with an established occupational exposure limit (see Section 8).

GHS Classification	Not classified as hazardous under GHS criteria

Source safety data (pre-GHS format) describes the product with the signal word "CAUTION" and notes it may cause irritation to skin, eyes and respiratory tract as a nuisance dust.

GHS label elements, including precautionary statements

GHS: Not classified / No signal word required. The following precautions are recommended as good industrial hygiene practice for a nuisance/particulate dust:

Hazard statements

None assigned under GHS. Label advisory: May cause irritation to skin, eyes and respiratory tract.

Precautionary statements

P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/eye protection.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
P501: Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification

Hazard is principally that of a nuisance dust; coughing or shortness of breath may occur with excessive inhalation. No adverse effects expected from ingestion or normal eye contact beyond mechanical irritation from dust.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Activated Alumina (Aluminium Oxide)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 1344-28-1	Aluminium Oxide (Activated Alumina) — Not classified as hazardous under GHS criteria	90–100%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance if symptoms persist, showing the SDS of this product.

By inhalation

Remove to fresh air. Get medical attention for any breathing difficulty.

By skin contact

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if irritation develops.

By eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

By ingestion/aspiration

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice. No adverse effects expected from normal exposure.

Most important symptoms/effects, acute and delayed

May cause irritation to skin, eyes and respiratory tract due to nuisance dust. Coughing or shortness of breath may occur in cases of excessive inhalation. No chronic effects expected.

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

Not relevant.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Use any means suitable for extinguishing the surrounding fire.
Unsuitable: None known.

Specific hazards arising from the chemical

Not considered to be a fire or explosion hazard.

Special protective actions for fire-fighters

Use protective clothing and breathing equipment appropriate for the surrounding fire, and to protect against aluminium oxide dust that may be dispersed in the air.

Additional provisions

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.

Environmental precautions

No specific environmental precautions required; avoid unnecessary discharge to the environment.

Methods and materials for containment and cleaning up

Sweep up and containerise for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Use with adequate ventilation. Keep container closed. Avoid breathing dust. Avoid contact with eyes, skin and clothing.

B. Technical recommendations for the prevention of fires and explosions

Not applicable – product is not a fire or explosion hazard.

C. Technical recommendations on general occupational hygiene

Wash thoroughly after handling.

D. Technical recommendations to prevent environmental risks

Avoid unnecessary release of dust to the environment.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Storage container	Keep in a tightly closed container
Storage area	Cool, dry, ventilated area, protected against physical damage

B. General conditions for storage

Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Specific end use(s)

Manufactured/graded to IS 9700-1981 for use as a desiccant/adsorbent; except for the instructions already specified, no special recommendation is necessary.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Identification	Occupational Exposure Limit Type	Value
Aluminium Oxide (alpha alumina) CAS: 1344-28-1	OSHA PEL – total dust	15 mg/m³
	OSHA PEL – respirable fraction	5 mg/m³
Aluminium Oxide (inhalable particulate, no asbestos, <1% crystalline silica)	ACGIH TLV (TWA)	10 mg/m³

Appropriate engineering controls

A system of local and/or general exhaust ventilation is recommended to keep employee exposures below the airborne exposure limits.

B. Respiratory protection

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better) may be worn up to 10× the exposure limit; a full facepiece particulate respirator (NIOSH type N100) up to 50× the exposure limit, whichever is lowest per the applicable regulatory guidance.

C. Specific protection for the hands

Protective gloves.

D. Eye and face protection

Chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in the work area.

E. Bodily protection

Clean body-covering clothing; lab coat for laboratory use.

F. Additional emergency measures

Eye wash fountain and quick-drench facilities should be available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid
Appearance	Spherical balls/granules
Color	White to off-white
Odor	Odourless
Product Description	
Molecular weight	101.96
Bound water content	Approx. 11–12%
Solubility in water	Insoluble
Flammability	
Flammability Rating	0 – None (non-flammable)
Explosive properties	Not considered an explosion hazard

Detailed physical constants (bulk density, crush strength, surface area, pore volume) are grade-specific to IS 9700-1981 and are available on request.

Other information

Health Rating (SAF-T-DATA)	1 – Slight
Reactivity Rating	0 – None
Contact Rating	1 – Slight

10. STABILITY AND REACTIVITY

Reactivity Stable under ordinary conditions of use and storage.

Chemical stability Stable under ordinary conditions of use and storage.

Possibility of hazardous reactions Hazardous polymerization will not occur.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Avoid prolonged moisture exposure (reduces adsorption capacity)

Incompatible materials

Chlorine Trifluoride	Ethylene Oxide
Avoid contact	Avoid contact

Hazardous decomposition products No information found.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

A. Ingestion (acute effect)
No adverse effects expected.

B. Inhalation (acute effect)
Hazard is principally that of a nuisance dust. Coughing or shortness of breath may occur in cases of excessive inhalation.

C. Contact with skin and eyes (acute effect)
May cause irritation with redness and pain (skin). No adverse effects expected on eye contact, but dust may cause mechanical irritation.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Not listed as a known or anticipated carcinogen by NTP; IARC Category: None. No LD50/LC50 data found relating to normal routes of occupational exposure. "Investigated as a tumorigen" per historical hazard database entries, though not classified as carcinogenic to humans.

E. Sensitizing effects
Not known to be a skin or respiratory sensitiser.

F. Specific target organ toxicity (STOT) – single exposure
May cause irritation to skin, eyes and respiratory tract (nuisance dust).

G. Specific target organ toxicity (STOT) – repeated exposure
Chronic exposure: No adverse effects expected under normal conditions of use.

H. Aspiration hazard
Not expected to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Toxicity No specific ecotoxicity data available; aluminium oxide is a highly insoluble, chemically inert inorganic solid of low environmental concern in bulk form.

Persistence and degradability Not applicable (inert inorganic solid).

Bioaccumulative potential Not expected to bioaccumulate (highly insoluble).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	No	No

Results of PBT and vPvB assessment Non-applicable

Other adverse effects Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods Whatever cannot be saved for recovery or recycling (e.g. thermal reactivation) should be managed in an appropriate and approved waste disposal facility. Dispose of container and unused contents in accordance with national, state and local requirements.

14. TRANSPORT INFORMATION

Not classified as a Dangerous Good under ADR/RID, IMDG or IATA/ICAO criteria.

Transport of dangerous goods by land (ADR/RID)

14.1 UN number	Not assigned (non-hazardous for transport)
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not classified as a Dangerous Good
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk	Not relevant

Transport of dangerous goods by sea (IMDG)

14.1 UN number	Not assigned (non-hazardous for transport)
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not classified as a Dangerous Good
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk	Not relevant

Transport of dangerous goods by air (IATA/ICAO)

14.1 UN number	Not assigned (non-hazardous for transport)
14.2 UN proper shipping name	Not applicable
14.3 Transport hazard class(es)	Not classified as a Dangerous Good
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk	Not relevant

15. REGULATORY INFORMATION

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

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

IS 9700-1981 – Specification for Activated Alumina
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

Not classified as hazardous under GHS criteria – no hazard statements assigned.

NFPA Ratings from the source document (for reference only, non-GHS system): Health: 1, Flammability: 0, Reactivity: 0.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

Original manufacturer's Material Safety Data Sheet for Activated Alumina Balls (CAS 1344-28-1); IS 9700-1981; NTP Carcinogen listing.

Abbreviations and acronyms

IS: Indian Standard | NIOSH: National Institute for Occupational Safety and Health (USA) | OSHA: Occupational Safety and Health Administration (USA) | PEL: Permissible Exposure Limit | TLV: Threshold Limit Value | TWA: Time Weighted Average | ACGIH: American Conference of Governmental Industrial Hygienists | NTP: National Toxicology Program (USA) | IARC: International Agency for Research on Cancer

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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