

Cleaning granulate for TBi JetStream

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

1.1. Product identifier

Trade name

Cleaning granulate for TBi JetStream

Name of the chemical

Aluminium oxide

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

Relevant identified uses

production of refractories, abrasives and ceramics

Not suitable for use in

The product should not be used in ways other than those referred in Section 1

1.3. Details of the supplier of the safety data sheet

SDS created by

Product stewardship and sustainability Team

Supplier

TBi Industries GmbH

Street address

Robert-Bosch-Straße 20

61184 Karben

Germany

Telephone

+49 6039 9292 - 010

Email

info@tbi-industries.com

Fax

+49 6039 9292 -058

1.4. Emergency telephone number

+44 20 3807 3798

Available outside office hours

Yes

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Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Belfast Centre)
0344 892 0111 - National Poisons Information Service (Cardif Centre)
0344 892 0111 - National Poisons Information Service Edinburgh
0344 892 0111 - National Poisons Information Service (Birmingham Centre)
+44 20 7188 7188 - Guy's & St Thomas' Poisons Unit
0344 892 0111 - National Poisons Information Service (Newcastle Centre)

Other

Sup.Prod.no.
392P000002

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Description

The product is not classified as hazardous according to applicable GHS hazard classification criteria.

2.2. Label elements

More information

The product does not require labelling in accordance with CLP Regulation (EC) No 1272/2008.

2.3. Other hazards

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 %

The mixture does not contain substances in an individual concentration of $\geq 0,1$ % which meet the criteria for vPvB and PBT according to Regulation (EC) No 1907/2006, Annex XIII (REACH).

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
ALUMINUM OXIDE	1344-28-1 215-691-6 - -	85 - 99.9%	-	- - -	-

SECTION 4: First aid measures

4.1. Description of first aid measures

The substance can be absorbed into the body by inhalation of its aerosol.

Inhalation

In case of dust inhalation remove to ventilated area and keep calm. In case of ongoing discomfort consult a physician.

Skin contact

In case of large exposures wash with soap and water

Eye contact

If particles come into contact with eyes treatment for mechanical irritation or injury may be required; flush thoroughly with water, in case of ongoing discomfort consult a physician.

Ingestion

Rinse out the mouth with clean water. In the event of issues, find medical help.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation of high concentrations of dusts of this substance may cause eyes and upper respiratory tract irritation. The substance may have effects on the central nervous system.

4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Accommodate extinguishing components to the location of fire.

Unsuitable extinguishing media

A strong stream of water can spread the fire.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Use a self-contained breathing apparatus and full-body protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Follow the instructions in the Sections 7 and 8.

6.2. Environmental precautions

Do NOT wash away into sewer. If material or contaminated runoff enters waterways, notify downstream users. Avoid creating dusty conditions and prevent wind dispersal. Collect material for recycling if possible. Contact your Department of Environmental Protection.

6.3. Methods and material for containment and cleaning up

- For containment: sealed containers
- For cleaning up:
 - 1) evacuate and restrict persons not wearing protective equipment from area,
 - 2) remove all ignition sources where the product has been spilled,
 - 3) ventilate area of spill,
 - 4) collect spilled material in the most convenient and safe manner (Vacuum preferred in case of powder – If not, moisten to aid collection) and deposit in sealed containers for reclamation or for disposal in a secured sanitary landfill.

6.4. Reference to other sections

See the Section 7, 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

- measures to prevent fire: local exhaust. Avoid any source of ignition. Dust explosion-proof electrical equipment and lighting if necessary.
- measures to prevent aerosol and dust generation: local exhaust ventilation should be applied wherever there is an incidence of point source emissions or dispersion of regulated contaminants in the work area.
- measures to protect the environment: do NOT wash away into sewer

General hygiene

- do not eat, drink, or smoke during work
- wash hands after use
- remove contaminated clothing and protective equipment before entering eating area
- avoid inhalation, skin and eye contact. Wear appropriate personal protective equipment

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures and storage condition: Avoid suspension of dust. Material should be kept dry and in closed containers. Keep away from sparks, heat, and open flame in a dry well-ventilated area.
- Packaging material: -
- Requirement for storage rooms and vessels: -
- Further information on storage conditions: lump material has no hazards associated with the handling and storage.

7.3. Specific end use(s)

Not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Source	Remark	Year
Aluminum oxide	1344-28-1 215-691-6	- 4	UK WEL	Respirable dust	2020
Aluminum oxide	1344-28-1 215-691-6	- 10	UK WEL	Inhalable dust	2020

8.2. Exposure controls

Eye / face protection

Safety goggles, or eye protection in combination with breathing protection if powder.

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Other skin protection

Use protective gloves when handling the substance and appropriate work clothes.

Respiratory protection

Not required under recommended conditions of use. In case dust is generated, use personal protective equipment, dust filter P2 or if fine particles P3.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

Other

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Colour

white,brown

Odour

without fragrance

Melting point / freezing point

2044 - 2050 °C

Boiling point or initial boiling point and boiling range

Not applicable

Flammability

No data available

Lower and upper explosion limit

No data available

Flash point

No data available

Auto-ignition temperature

No data available

Decomposition temperature

No data available

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pH

No data available

Kinematic viscosity

No data available

Solubility

No data available

Water solubility

Insoluble

Partition coefficient n-octanol/water

No data available

Vapour pressure

Not applicable

Density and/or relative density3.8 - 4 g/cm³**Relative vapour density**

No data available

Explosive properties

explosive dust

Particle characteristics

No data available

9.2. Other informationBulk density : 1,3-1,9 t/m³**SECTION 10: Stability and reactivity****10.1. Reactivity**

Dust explosion possible under powder form

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown

10.4. Conditions to avoid

Ignites in air when finely divided. PREVENT DISPERSION OF DUST in closed system. The product should be kept dry (see section 7).

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10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Acute toxicity (LD50/LC50)

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Test animals	Method / Guideline	Remarks
Aluminium oxide 1344-28-1	LD50	> 10000 mg/kg bw	Rat (Wistar) male/female	Method according to or similar to OECD Guideline 401 (Acute Oral Toxicity)	LD50 concentrations based on mortality
Aluminium oxide 1344-28-1	LC50	> 2.3 mg/L air	Rat (Wistar) male/female	Method according to or similar to OECD Guideline 403 (Acute Inhalation Toxicity)	LC50 concentrations based on mortality Test material: fumed alumina
Aluminium oxide 1344-28-1	LC50	7.6 mg/L air	Rat (Charles River) male	Method according to or similar to OECD Guideline 403 (Acute Inhalation Toxicity)	LC50 concentrations based on mortality
Aluminium oxide 1344-28-1	LD50	> 15900 mg/kg bw	Rat (Sprague-Dawley) male/female	Method according to or similar to OECD Guideline 401 (Acute Oral Toxicity)	LD50 concentrations based on mortality Test material: fumed alumina
Aluminium oxide 1344-28-1	LD50	> 2000 mg/kg bw	Rat (Wistar) female	Method according to or similar to OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)	LD50 concentrations based on mortality Test material particle size: 50-200µm, 30 and 40 nm

Skin corrosion/irritation

Aluminum oxide is not skin irritant

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Serious eye damage/irritation

Aluminum oxide is not sensitising.

Respiratory or skin sensitisation

Aluminum oxide is not sensitising.

Germ cell mutagenicity

Balasubramanyam et al. (2009) highlighted a dose-response relationship for Micronucleus and for DNA damage assessed using the alkaline Comet Assay on Rat bone marrow cells after a single exposure (oral administration of different sized aluminum oxide particles solutions). It means that aluminum oxide could be cell mutagenic. But results are only positives with the Nano sized aluminum oxide particles. So, the author concluded that the mutagenic effect could be due to the size of the material and not the chemistry itself.

Carcinogenicity

Aluminum oxide is not classified as carcinogen.

Reproductive toxicity

There are no studies about aluminum oxide, but many studies using other forms of aluminum concluded that aluminum is not reprotoxic.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards**Endocrine disrupting properties**

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Because of low solubility, inhaled aluminium oxide does not effectively transfer from the lungs to the systemic circulation.

SECTION 12: Ecological information**12.1. Toxicity****Acute fish toxicity**

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline	Remark
Aluminium oxide 1344-28-1	NOEC	≥ 0.004 mg/L	72h	Pseudokirchneriella subcapitata (algae) Freshwater, static	OECD Guideline 201 (Alga, Growth Inhibition Test)	NOEC concentrations based on dissolved aluminium (0.004 mg/mL) oxide and growth rate Test material: aluminium hydroxide
Aluminium oxide 1344-28-1	NOEC	> 0.005 mg/L	48h	Daphnia magna Freshwater, static	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)	NOEC concentrations based on dissolved aluminium (0.005 mg/mL) oxide and mortality Test material: aluminium hydroxide
Aluminium oxide 1344-28-1	NOEC	> 0.07 mg/L	96h	Salmo trutta Freshwater, semi-static	According to OECD Guideline 203 (Fish, Acute Toxicity Test)	NOEC concentrations based on dissolved aluminium (0.07 mg/mL) oxide and mortality Test material: aluminium hydroxide
Aluminium oxide 1344-28-1	NOEC	> 0.071 mg/L	48h	Daphnia magna Freshwater, static	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)	NOEC concentrations based on dissolved aluminium (0.071 mg/mL) oxide and mortality
Aluminium oxide 1344-28-1	NOEC	≥ 0.052 mg/L	72h	Pseudokirchneriella subcapitata (algae) Freshwater, static	OECD Guideline 201 (Alga, Growth Inhibition Test)	NOEC concentrations based on dissolved aluminium (0.052 mg/mL) oxide and growth rate
Aluminium oxide 1344-28-1	NOEC	> 0.072 mg/L	96h	Salmo trutta Freshwater, semi-static	According to OECD Guideline 203 (Fish, Acute Toxicity Test)	NOEC concentrations based on dissolved aluminium (0.072 mg/mL) oxide and mortality

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12.2. Persistence and degradability

Not Available

12.3. Bioaccumulative potential

Not Available

12.4. Mobility in soil

Mobility

Not Available

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste code	Waste description
16 03 04	inorganic wastes other than those mentioned in 16 03 03
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 09	textile packaging

Please note - an asterisk (*) next to a code denotes that it is HAZARDOUS WASTE.

Other

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

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SECTION 14: Transport information

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No.1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended.

National regulations

No data available

15.2. Chemical safety assessment

Not Available

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SECTION 16: Other information

Changes to previous revision

This Safety Data Sheet has been revised due to modification(s) to section(s) 1-16 Latest Revision of SDS as per Regulation and exposure limits – January 2023

References to key literature and data sources

This Safety Data Sheet complies with Annex II of 830/2015 amending EC No. 1907/2006, Commission Regulation (EU) 2020/878 amending CLP directive 1272/2008, also in accordance with ISO 11014-1 and ANSI Z400.1

Other

Additional information

ESAB requests the users of this product to study this Safety Data Sheet (SDS) and become aware of product hazards and safety information. To promote safe use of this product a user should: notify its employees, agents and contractors of the information on this SDS and any product hazards/safety information.

furnish this same information to each of its customers for the product.

request such customers to notify employees and customers for the same product hazards and safety information.

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