



PRODUCT INFORMATION SHEET

MATERION

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

1.1. Product identifier

Trade name or designation of the mixture	Alumina Ceramic
Registration number	-
Document number	C21
Synonyms	Aluminum Oxide, Alumina, Al ₂ O ₃ , Durox AL, Durox UHP
Issue date	21-July-2017
Version number	03
Revision date	28-April-2021
Supersedes date	13-January-2021

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

Identified uses	Industrial uses: Uses of substances as such or in preparations at industrial sites Manufacture of computer, electronic and optical products, electrical equipment General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment Scientific research and development
Uses advised against	Professional uses: Public domain (administration, education, entertainment, services, craftsmen) Consumer uses: Private households (= general public = consumers)

1.3. Details of the supplier of the product information sheet

Materion Brush Inc.
6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States
ehs@materion.com
www.materion.com
+1.216.383.4019

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Health hazards

Carcinogenicity	Category 2	
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.

Hazard summary Exposure to powder or dusts may be irritating to eyes, nose and throat.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Aluminium oxide, Calcium carbonate, Kaolin, Talc

Hazard pictograms



Signal word Warning

Hazard statements

H335 May cause respiratory irritation.

Precautionary statements

Prevention

P261 Observe good industrial hygiene practices.
P271 Avoid breathing dust/fume.
Use only outdoors or in a well-ventilated area.

Response

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P304 + P312 IF INHALED: Call a POISON CENTRE/doctor if you feel unwell.

Storage

P405 Store locked up.

Disposal

Dispose of waste and residues in accordance with local authority requirements.

Supplemental label information

For further information, please contact the Product Stewardship Department at +1.800.862.4118.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Aluminium oxide	94 - 99,9	1344-28-1 215-691-6	-	-	
Classification: -					
Calcium carbonate	0 - 2	1317-65-3 215-279-6	-	-	
Classification: -					
Kaolin	0 - 2	1332-58-7 310-194-1	-	-	
Classification: -					
Talc	0 - 2	14807-96-6 238-877-9	-	-	
Classification: -					

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

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

Dusts may irritate the respiratory tract, skin and eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards

No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special firefighting procedures	Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Not available.
For emergency responders	Keep unnecessary personnel away.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Stop the flow of material, if this is without risk. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid prolonged exposure. Practice good housekeeping.

7.2. Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store in a well-ventilated place.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	MAK	5 mg/m ³	Respirable fume.
		5 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
	STEL	20 mg/m ³	Inhalable fraction.
		10 mg/m ³	Respirable fume.
Talc (CAS 14807-96-6)	MAK	10 mg/m ³	Respirable fraction.
		2 mg/m ³	Respirable fraction.

Belgium. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m ³	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	3,5 mg/m ³	Respirable fraction.

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Calcium carbonate (CAS 1317-65-3)	TWA	1 fibers/cm3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
		10 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	6 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	1 fibers/cm3	Respirable fraction.
		6 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Calcium carbonate (CAS 1317-65-3)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Kaolin (CAS 1332-58-7)	MAC	2 mg/m3	Respirable dust.
Talc (CAS 14807-96-6)	MAC	1 mg/m3	Respirable dust.

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
Talc (CAS 14807-96-6)	TWA	706 part/cm3

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	0,1 mg/m3	Respirable dust.
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Dust.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Dust.
Talc (CAS 14807-96-6)	TWA	10 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Denmark. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	5 mg/m3	Total
		2 mg/m3	Respirable.
Kaolin (CAS 1332-58-7)	TLV	2 mg/m3	Respirable.
Talc (CAS 14807-96-6)	TLV	0,3 fibers/cm3	Fiber.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Fine dust, respiratory fraction
		10 mg/m3	Total dust.
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Fine dust.
		10 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Fine dust, respiratory fraction
		1 mg/m3	Total dust.

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Components	Type	Value	Form
Talc (CAS 14807-96-6)	TWA	5 mg/m3	Fine dust, respiratory fraction
		1 mg/m3	Total dust.

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Dust.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable.
Talc (CAS 14807-96-6)	STEL	2 ppm	Inhalable dust.
		1 ppm	Respirable.
		0,5 fibers/cm3	

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	VME	10 mg/m3	
Regulatory status: Indicative limit (VL)			
Calcium carbonate (CAS 1317-65-3)	VME	10 mg/m3	
Regulatory status: Indicative limit (VL)			
Kaolin (CAS 1332-58-7)	VME	5 mg/m3	Respirable fraction.
		Regulatory status: Regulatory binding (VRC)	
		10 mg/m3	Inhalable fraction.
		Regulatory status: Regulatory binding (VRC)	
		10 mg/m3	
Regulatory status: Indicative limit (VL)			
Talc (CAS 14807-96-6)	VME	5 mg/m3	Respirable fraction.
		Regulatory status: Regulatory binding (VRC)	
		10 mg/m3	Inhalable fraction.
		Regulatory status: Regulatory binding (VRC)	

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Inhalable dust.
		1,5 mg/m3	Respirable dust.
Kaolin (CAS 1332-58-7)	TWA	4 mg/m3	Inhalable dust.
		0,3 mg/m3	Respirable dust.
Talc (CAS 14807-96-6)	TWA	4 mg/m3	Inhalable dust.
		0,3 mg/m3	Respirable dust.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.
Talc (CAS 14807-96-6)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m3	Inhalable
		10 mg/m3	Respirable.
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Inhalable
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.
		10 mg/m3	Inhalable

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m3	Respirable.
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	6 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
		0,5 mg/m3	Dust.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable dust.
Talc (CAS 14807-96-6)	TWA	0,3 fibers/cm3	Fiber.
		5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Calcium carbonate (CAS 1317-65-3)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable dust.
Talc (CAS 14807-96-6)	TWA	10 mg/m3	Total inhalable dust.
		0,8 mg/m3	Respirable dust.

Italy. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m3	Decomposition aerosol.
		4 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Dust.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value	Form
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Dust.
		2 mg/m ³	
		2 mg/m ³	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	5 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
		1 mg/m ³	Dust.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Inhalable fraction.
		1 mg/m ³	Respirable fraction.

Netherlands. OELs (binding)

Components	Type	Value	Form
Talc (CAS 14807-96-6)	TWA	0,25 mg/m ³	Respirable dust.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	10 mg/m ³	
Kaolin (CAS 1332-58-7)	TLV	5 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.
Talc (CAS 14807-96-6)	TLV	6 mg/m ³	Total dust.
		2 mg/m ³	Respirable dust.

Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	2,5 mg/m ³	Inhalable fraction.
		1,2 mg/m ³	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	10 mg/m ³	Inhalable fraction.
Talc (CAS 14807-96-6)	TWA	4 mg/m ³	Inhalable fraction.
		1 mg/m ³	Respirable fraction.

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Respirable fraction.

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	5 mg/m ³	Aerosol
	TWA	2 mg/m ³	Aerosol

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Inhalable fraction.
		1,5 mg/m ³	Respirable fraction.
		0,1 mg/m ³	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m ³	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable aerosol fraction

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	Form
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Respirable aerosol fraction
		2 mg/m ³	Respirable fraction.
		2 mg/m ³	Respirable fraction.
		10 mg/m ³	Aerosol
		10 mg/m ³	
		10 mg/m ³	Total
		10 mg/m ³	Dust.
		2 mg/m ³	Respirable fraction.
		2 mg/m ³	Respirable fraction.
		10 mg/m ³	Total

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	Inhalable fraction.
Kaolin (CAS 1332-58-7)	TWA	1,25 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
Talc (CAS 14807-96-6)	TWA	1,25 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.
		1,25 mg/m ³	Respirable fraction.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable fraction.
		2 mg/m ³	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Respirable fraction.

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Total dust.
		2 mg/m ³	Respirable dust.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m ³	Inhalable dust.
		2,5 mg/m ³	Respirable dust.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Total dust.
		1 mg/m ³	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	24 mg/m ³	Respirable dust and/or fume.
		3 mg/m ³	Respirable dust.
		3 mg/m ³	Respirable dust and/or fume.
Kaolin (CAS 1332-58-7)	TWA	3 mg/m ³	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m ³	Respirable fraction.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.
Calcium carbonate (CAS 1317-65-3)	TWA	4 mg/m ³	Respirable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
		4 mg/m ³	Respirable.
		10 mg/m ³	Inhalable
		10 mg/m ³	Inhalable dust.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m ³	Respirable dust.
Talc (CAS 14807-96-6)	TWA	1 mg/m ³	Respirable dust.

Biological limit values**Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)**

Components	Value	Determinant	Specimen	Sampling Time
Aluminium oxide (CAS 1344-28-1)	60 µg/g	Aluminium	Creatinine in urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures

Not available.

Derived no effect levels (DNELs)

Not available.

Predicted no effect concentrations (PNECs)

Not available.

8.2. Exposure controls**Appropriate engineering controls**

VENTILATION: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation. Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems.

Individual protection measures, such as personal protective equipment**General information**

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

Skin protection**- Hand protection**

Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.

- Other

Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities.

Respiratory protection

When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

Thermal hazards

Not applicable.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls

Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	
Physical state	Solid.
Form	Powder. Various shapes.
Colour	White. Off-white.
Odour	Not applicable.
Odour threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	2050 °C (3722 °F) / Not applicable.
Initial boiling point and boiling range	2977 °C (5390,6 °F) estimated
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit – upper (%)	Not applicable.
Vapour pressure	0,00001 hPa estimated
Vapour density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Not applicable.
Solubility (other)	Not applicable.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density	3,93 g/cm ³ estimated
Specific gravity	3,93 estimated

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Acids. Chlorine.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.

Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Dusts may irritate the respiratory tract, skin and eyes.
11.1. Information on toxicological effects	
Acute toxicity	No data available.
Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Due to partial or complete lack of data the classification is not possible.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)	
Not listed.	
IARC Monographs. Overall Evaluation of Carcinogenicity	
Talc (CAS 14807-96-6)	2B Possibly carcinogenic to humans. 3 Not classifiable as to carcinogenicity to humans.
Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)	
Aluminium oxide (CAS 1344-28-1)	Carcinogenic, Category 1A
Kaolin (CAS 1332-58-7)	Carcinogenic, Category 1A
Talc (CAS 14807-96-6)	Carcinogenic, Category 1A
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	Not available.
SECTION 12: Ecological information	
12.1. Toxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
12.2. Persistence and degradability	No data is available on the degradability of this product.
12.3. Bioaccumulative potential	No data available.
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
SECTION 13: Disposal considerations	
13.1. Waste treatment methods	
Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Aluminium oxide (CAS 1344-28-1)

Kaolin (CAS 1332-58-7)

Talc (CAS 14807-96-6)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations	Not available.
References	Not available.
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculator methods and test data, if available.
Training information	Follow training instructions when handling this material.
Further information	Transportation Emergency Call Chemtrec at: International: 703.741.5970 Spain: 900.868.538 Switzerland: 0800.564.402 Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059
Disclaimer	<p>This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.</p> <p>To avoid any misunderstandings or incorrect assumptions by the receiver of the safety information, it should be made clear that the supplied information is not in the form of a Safety Data Sheet (SDS), but is actually a voluntary Product Information Sheet closely following the guidelines of the Safety Data Sheet – COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 (REACH/SDS).</p>