

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

1.1. Product identifier

Product form : Mixture
Type of product : Fillers, putties, plasters, modelling clay, Thermal interface material, Paste

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

1.2.1. Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Conductive agents
Fillers
Function or use category : Conductive agents, Fillers

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Premier Farnell plc
150 Armley Road, Leeds, LS12 2QQ
+44 (0) 8701 202530

1.4. Emergency telephone number

+44 1865 407333

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

Section 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ALUMINA	(CAS-No.) 1344-28-1 (EC-No.) 215-691-6	30 - 90	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: immediately flush eyes with running water for at least 15 minutes.
First-aid measures after ingestion	: (If swallowed, rinse mouth with water (only if the person is conscious)). Call a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: Inhalation may cause irritation (cough, short breathing, difficulty in breathing).
Symptoms/effects after skin contact	: Causes mild skin irritation.
Symptoms/effects after eye contact	: mild eye irritation.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract. Ingestion may cause nausea and vomiting.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter drains or water courses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Clean contaminated surfaces with an excess of water.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
 Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ALUMINA (1344-28-1)		
Belgium	Local name	Aluminium (métal et composés insolubles, fraction alvéolaire) # Aluminium (metaal en onoplosbare verbindingen, inadembare fractie)
Belgium	Limit value (mg/m ³)	1 mg/m ³
Belgium	Regulatory reference	Koninklijk besluit/Arrêté royal 02/09/2018
Croatia	Local name	Aluminijev oksid
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	10 mg/m ³ U (ukupna prašina) 4 mg/m ³ R (respirabilna prašina)
Croatia	Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN, br. 75/13)
Denmark	Local name	Aluminiumoxid
Denmark	Grænseværdie (langvarig) (mg/m ³)	5 mg/m ³ beregnet som Al, total 2 mg/m ³ beregnet som Al, respirabel
Denmark	Regulatory reference	BEK nr 655 af 31/05/2018
Estonia	Local name	Alumiinium, metalliline ja oksiidid
Estonia	OEL TWA (mg/m ³)	10 mg/m ³ kogu tolm 4 mg/m ³ peentolm
Estonia	Remark (ET)	1 (Peentolm koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad jõuda koos sissehingataava õhuga kopsu alveoolidesse)
Estonia	Regulatory reference	Vabariigi Valitsuse 18. septembri 2001. a määruse nr 293 (RT I, 30.11.2011, 5)
France	Local name	Aluminium (Trioxyde de di-)
France	VME (mg/m ³)	10 mg/m ³
France	Note (FR)	Valeurs recommandées/admises
France	Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)

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ALUMINA (1344-28-1)		
Germany	TRGS 910 Acceptable concentration notes	
Greece	Local name	Αλουμίνα, α-
Greece	OEL TWA (mg/m ³)	10 mg/m ³ αναπν. 5 mg/m ³ εισπν.
Greece	Regulatory reference	Π.Δ. 90/1999
Hungary	Local name	DIALUMÍNIUM-TRIOXID (alumínium-oxid, timföld) (Al-ra számítva)
Hungary	AK-érték	6 mg/m ³ respirábilis frakció
Hungary	Regulatory reference	25/2000. (IX. 30.) EüM–SZCSM együttes rendelet a munkahelyek kémiai biztonságáról
Ireland	Local name	Aluminium oxides
Ireland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³ total inhalable dust 4 mg/m ³ respirable dust
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
Latvia	Local name	Alumīnija oksīds
Latvia	OEL TWA (mg/m ³)	6 mg/m ³ dezintegrācijas aerosola veidā 4 mg/m ³ maisījumā ar niķeli (līdz 15%), (elektrokorunds)
Latvia	Regulatory reference	Ministru kabineta 2007.gada 15.maija noteikumiem Nr.325 (Grozījumi Ministru kabineta 2011.gada 1.februārī noteikumiem Nr.92)
Poland	Local name	Tritlenek glinu
Poland	NDS (mg/m ³)	2.5 mg/m ³ w przeliczeniu na Al: frakcja wdychalna
Poland	NDSCh (mg/m ³)	1.2 mg/m ³ w przeliczeniu na Al: frakcja respirabilna
Poland	Remark (PL)	Frakcja wdychalna – frakcja aerozolu wnikażąca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Frakcja respirabilna – frakcja aerozolu wnikażąca do dróg oddechowych, która stwarza zagrożenie dla zdrowia po zdeponowaniu w obszarze wymiany gazowej.
Poland	Regulatory reference	Dz. U. 2018 poz. 1286
Romania	Local name	Oxid de aluminiu
Romania	OEL TWA (mg/m ³)	2 mg/m ³ (Aerosoli)
Romania	OEL STEL (mg/m ³)	5 mg/m ³ (Aerosoli)
Romania	Regulatory reference	Hotărârea nr. 584/2018
Slovakia	Local name	Oxid hlinitý
Slovakia	NPHV (priemerná) (mg/m ³)	4 mg/m ³ inhalovateľná frakcia – prach 1.5 mg/m ³ respirabilná frakcia – prach
Slovakia	Regulatory reference	Nariadenie vlády č. 33/2018 Z.z.
Spain	Local name	Óxido de aluminio (Corindón)
Spain	VLA-ED (mg/m ³)	10 mg/m ³

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ALUMINA (1344-28-1)		
Spain	Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2018. INSHT
United Kingdom	Local name	Aluminium oxides
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ inhalable dust 4 mg/m ³ respirable dust
United Kingdom	Regulatory reference	EH40/2005 (Third edition, 2018). HSE
Iceland	Local name	Áloxíð, sem Al
Iceland	OEL (8 hours ref) (mg/m ³)	10 mg/m ³
Iceland	Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway	Local name	Aluminiumoksid
Norway	Grenseverdier (AN) (mg/m ³)	10 mg/m ³
Norway	Merknader (NO)	1) Grenseverdien er fastsatt lik verdien for sjenerende støv
Norway	Regulatory reference	FOR-2018-08-21-1255
Switzerland	Local name	Aluminium oxyde / Aluminiumoxid [Korund]
Switzerland	MAK (mg/m ³)	3 mg/m ³ (a) / (a)
Switzerland	Critical toxicity	Formel / Formal
Switzerland	Notation	B / B
Switzerland	Remark	NIOSH
Switzerland	Regulatory reference	www.suva.ch, 01.11.2018

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Safety glasses. Gloves.

Materials for protective clothing:

Use personal protective clothing as required

Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11		EN 374-2

Eye protection:

Safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Dust	clear	EN 166

Skin and body protection:			
Wear suitable protective clothing			
Type		Standard	
Disposable gowns			
Respiratory protection:			
In case of insufficient ventilation, wear suitable respiratory equipment			
Device	Filter type	Condition	Standard
Disposable half mask	Type P3	Vapour protection, Moist condition	EN 140

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: White.
Odour	: odourless.
Odour threshold	: No data available
pH	: Approx. 7
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: > 60°C Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: >2
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: 15000 mm ² /s Not applicable
Viscosity, dynamic	: No data available

Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : Not applicable

9.2. Other information

No additional information available

Section 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition or combustion may generate smoke, carbon oxides (CO, CO₂), and other products of incomplete combustion.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

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Viscosity, kinematic	15000 mm ² /s Not applicable

Section 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability

MPGCS-TR35-PCM	
Persistence and degradability	Readily biodegradable.

ALUMINA (1344-28-1)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

MPGCS-TR35-PCM	
Bioaccumulative potential	No bioaccumulation data available.

ALUMINA (1344-28-1)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

Section 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Section 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

	ADR	IMDG	IATA	ADN	RID
14.1. UN number	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

Section 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting : None of the components are listed

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giftige stoffen – Ontwikkeling

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

Section 16: Other information

No additional information available

Part Number

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