

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

### 1.1. Product identifier

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

### 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]

Skin corrosion/irritation, Category 1B H314  
Serious eye damage/eye irritation, Category 1 H318  
Hazardous to the aquatic environment — Chronic Hazard, Category 2 H411  
Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

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

Hazard pictograms (CLP)



GHS05

GHS09

Signal word (CLP) : Danger  
Hazardous ingredients : Aluminium Nitride  
Hazard statements (CLP) : H314 - Causes severe skin burns and eye damage.  
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P260 - Do not breathe dust.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P273 - Avoid release to the environment.  
P280 - Wear protective clothing, eye protection, face protection.  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
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. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a doctor.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P391 - Collect spillage.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 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	33 - 57	Not classified
Aluminium Nitride	(CAS-No.) 24304-00-5	22 - 48	Skin Corr. 1B, H314
BORON NITRIDE	(CAS-No.) 10043-11-5	3 - 11	Aquatic Chronic 1, H410
SILICONE	(CAS-No.) 68083-18-1 (EC-No.) 614-273-4	2 - 5	Not classified

Full text of H-statements: see section 16

## 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)).

### 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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

No additional information available

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

No additional information available

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

No additional information available

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

No additional information available

#### 6.3. Methods and material for containment and cleaning up

No additional information available

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

No additional information available

#### 7.2. Conditions for safe storage, including any incompatibilities

No additional information available

#### 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 <sup>3</sup> )	1 mg/m <sup>3</sup>
Belgium	Regulatory reference	Koninklijk besluit/Arrêté royal 02/09/2018

# Safety Data Sheet

**multicomp** PRO

ALUMINA (1344-28-1)		
Croatia	Local name	Aluminijev oksid
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> U (ukupna prašina) 4 mg/m <sup>3</sup> 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 <sup>3</sup> )	5 mg/m <sup>3</sup> beregnet som Al, total 2 mg/m <sup>3</sup> 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 <sup>3</sup> )	10 mg/m <sup>3</sup> kogu tolm 4 mg/m <sup>3</sup> peentolm
Estonia	Remark (ET)	1 (Peentolm koosneb alla 2,5-mikromeetrise läbimõõduga osakestest, mis võivad jõuda koos sissehingatava 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 <sup>3</sup> )	10 mg/m <sup>3</sup>
France	Note (FR)	Valeurs recommandées/admises
France	Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Germany	TRGS 910 Acceptable concentration notes	
Greece	Local name	Αλουμίνα, α-
Greece	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> αναπν. 5 mg/m <sup>3</sup> 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 <sup>3</sup> respirabilis 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 <sup>3</sup> )	10 mg/m <sup>3</sup> total inhalable dust 4 mg/m <sup>3</sup> respirable dust
Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
Latvia	Local name	Alumīnija oksīds
Latvia	OEL TWA (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup> dezintegrācijas aerosola veidā 4 mg/m <sup>3</sup> maisījumā ar niķeli (Iīdz 15%), (elektrokorunds)
Latvia	Regulatory reference	Ministru kabineta 2007.gada 15.maija noteikumiem Nr.325 (Grozījumi Ministru kabineta 2011.gada 1.februārt noteikumiem Nr.92)

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
Element14.com/multicomp-pro

**multicomp** PRO

# Safety Data Sheet

**multicomp** PRO

<b>ALUMINA (1344-28-1)</b>		
Poland	Local name	Tritlenek glinu
Poland	NDS (mg/m <sup>3</sup> )	2.5 mg/m <sup>3</sup> w przeliczeniu na Al: frakcja wdychalna
Poland	NDSCh (mg/m <sup>3</sup> )	1.2 mg/m <sup>3</sup> w przeliczeniu na Al: frakcja respirabilna
Poland	Remark (PL)	Frakcja wdychalna – frakcja aerozolu wnikająca przez nos i usta, która po zdeponowaniu w drogach oddechowych stwarza zagrożenie dla zdrowia. Frakcja respirabilna – frakcja aerozolu wnikająca 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 <sup>3</sup> )	2 mg/m <sup>3</sup> (Aerosoli)
Romania	OEL STEL (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Aerosoli)
Romania	Regulatory reference	Hotărârea nr. 584/2018
Slovakia	Local name	Oxid hlinitý
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> inhalovateľná frakcia – prach 1.5 mg/m <sup>3</sup> 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 <sup>3</sup> )	10 mg/m <sup>3</sup>
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 <sup>3</sup> )	10 mg/m <sup>3</sup> inhalable dust 4 mg/m <sup>3</sup> 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 <sup>3</sup> )	10 mg/m <sup>3</sup>
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 <sup>3</sup> )	10 mg/m <sup>3</sup>
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 <sup>3</sup> )	3 mg/m <sup>3</sup> (a) / (a)
Switzerland	Critical toxicity	Formel / Formal
Switzerland	Notation	B / B
Switzerland	Remark	NIOSH
Switzerland	Regulatory reference	www.suva.ch, 01.11.2018

Aluminium Nitride (24304-00-5)		
Germany	TRGS 910 Acceptable concentration notes	
Latvia	Local name	Alumīnija nitrīds
Latvia	OEL TWA (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>
Latvia	Regulatory reference	Ministru kabineta 2007.gada 15.maija noteikumiem Nr.325 (Grozījumi Ministru kabineta 2011.gada 1.februārī noteikumiem Nr.92)
Lithuania	Local name	Aliuminio nitridas
Lithuania	IPRV (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>
Lithuania	Remark (LT)	F (fibrogeninis poveikis)
Lithuania	Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V- 695/A1-272, 2018-06-12)

## 8.2. Exposure controls

### Appropriate engineering controls:

Provide local exhaust or general room ventilation. Always wash hands after handling the product.

### Personal protective equipment:

Gloves. Protective goggles. Protective clothing.

### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available

Solubility : No data available  
Log Pow : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : No data available  
Explosive properties : No data available  
Oxidising properties : No data available  
Explosive limits : No data available

## 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## 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

BORON NITRIDE (10043-11-5)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	5.19 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
Serious eye damage/irritation : Causes serious eye damage.  
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

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity : Not classified  
 Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

BORON NITRIDE (10043-11-5)	
LC50 fish 1	> 100 mg/l
NOEC chronic fish	> 100 mg/l

### 12.2. Persistence and degradability

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

### 12.3. Bioaccumulative potential

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

No additional information available

## SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
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 giftige stoffen – Ontwikkeling : None of the components are listed

##### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of H- and EUH-statements:	
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

**Part Number**

MP-TG-A1780-150-0.5

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.