

1. Identification

1.1 Product Identifier

Description Ceramic shapes and parts manufactured from Alumina (96%, 99% and 99.8%).
Contains Aluminum oxide (CAS 1344-28-1)
Synonyms 998, AP35

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

Recommended use Consult the supplier
Uses advised against Users are recommended to seek further advice

1.3 Supplier's details

McDanel Advanced Ceramic Technologies
510 Ninth Avenue
Beaver Falls, Pa 15010-0560

1.4 Emergency phone number

McDanel +1-724-843-8300

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification

Not classified as hazardous

REGULATION (EC) No 1272/2008

Not classified

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

2.2 Label elements

Symbol(s)

Not applicable

Signal word

None

Hazard Statements

None

Precautionary statements

In circumstances where dust may be generated from machining or disposal:

P261 – Avoid breathing dust/fume/gas/mist/vapors/spray

P280 – Wear eye protection/face protection

P285 – In case of inadequate ventilation wear respiratory protection

P305 + P351 + P338 – If in eyes, rinse cautiously with water for several minutes

P302 + P352 – If on skin, wash with plenty of soap and water

2.3 Other information

This product is an article, a monolithic material.



3. Composition/information on ingredients

3.1 Substances

This product is a monolithic material.

4. First aid measures

4.1 Description of first aid measures

In circumstances where dust may be generated from machining or disposal:

- | | |
|-----------------------|--|
| Eye Contact | Rinse cautiously with water for several minutes. Remove contact lenses if present, and easy to do. Continue rinsing. |
| Skin Contact | Wash skin with soap and water. |
| Ingestion | Rinse mouth. |
| Inhalation | Move to fresh air. |
| General Advice | If symptoms persist, call a physician. Show this safety data sheet to doctor in attendance. |

4.2 Most important symptoms and effects, both acute and delayed

No information available

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

Treat symptomatically

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

None known

5.2 Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

Not applicable

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Wear personal protective equipment when machining.

6.2 Environmental precautions

No special environmental precautions required.

6.3 Methods and material for containment and cleaning up
 Recover product. Place into appropriate container for disposal.

7. Handling and storage

7.1 Precautions for Safe Handling

In circumstances where dust may be generated from machining or disposal:

Handling

Provide appropriate exhaust ventilation at places where dust is formed.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

Exposure scenario

No information available

7.2 Conditions for safe storage, including any incompatibilities

Keep in a dry place.

7.3 Specific end use(s)

No information available

8. Exposure controls/personal protection

8.1 Control parameters

Exposure limits

Applies to circumstances where dust may be generated from machining or disposal.

Country/Region	Occupational exposure limit (mg/m ³)*	
	TWA – 8 hour	STEL – 15 min
United States (PEL)	5 ^R , 15 ^T	-
United States (ACGIH)	1 ^T	-
United Kingdom	10 ^I , 4 ^R	-
Switzerland	3 ^R	-
Sweden	5 ^I , 2 ^R	-
Spain	10 ^I , 5 ^R	-
Russia	6	-
Portugal	10	-
Poland	2	16
Norway	2	-
New Zealand	10 ^R	-
Netherlands	10	-
Mexico	10	-
Malaysia	10	-
Korea	10	-

* Milligrams of substance per cubic meter of air



Country/Region	Occupational exposure limit (mg/m ³)*	
	TWA – 8 hour	STEL – 15 min
Japan	0.5 ^R	-
Italy	1	-
Iceland	10	-
Hungary	6 ^R	-
Greece	10	-
Germany	4 ^I , 1.5 ^R	-
France	10 ^R	-
Estonia	4	-
Denmark	5 ^I , 2 ^R	10 ^I , 4 ^R
Czech Republic	0.1	-
China	4	-
Belgium	-	2
Austria	5	15

I: Inhalable dust, R: Respirable dust, T: Total dust

TWA (Time Weighted Average): The average level of exposure over a specified time period.

STEL (Short Term Exposure Level): The maximum exposure level permitted during a short period of time.

8.2 Exposure controls

Engineering controls

Ensure adequate ventilation in circumstances where dust may be generated from machining or disposal, especially in confined areas.

Personal protective equipment

In circumstances where dust may be generated from machining or disposal:

- Eye Protection** Safety glasses with side-shields.
- Skin Protection** No special protective equipment required.
- Hand Protection** No special protective equipment required.
- Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental exposure controls

Avoid dust formation

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state** Solid
- Color** Ivory or white
- Odor** Not applicable
- Odor threshold** Not applicable
- pH** Not applicable
- Melting point** 2000°C

Freezing point	Not applicable
Initial boiling point	Not applicable
Boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Not applicable
Upper explosive limit	Not applicable
Lower explosive limit	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	3.60 to 3.950 g/cm ³
Solubility	Not applicable
Partition coefficient	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable

10. Stability and reactivity

10.1 Reactivity

None under normal processing

10.2 Chemical Stability

Stable under normal conditions

10.3 Possibility of Hazardous Reactions

None under normal processing

10.4 Conditions to Avoid

No known conditions to avoid

10.5 Incompatible materials

No incompatible materials known

10.6 Hazardous Decomposition Products

None under normal processing

11. Toxicological information

11.1 Information on toxicological effects

Note: The information provided solely pertains to dust exposure.

Acute toxicity

Acute oral toxicity	Conclusive but not sufficient for classification
Acute dermal toxicity	Conclusive but not sufficient for classification
Acute inhalation toxicity	Conclusive but not sufficient for classification

Chronic toxicity

Irritation	Conclusive but not sufficient for classification
Corrosivity	Conclusive but not sufficient for classification
Sensitization	Conclusive but not sufficient for classification
Mutagenic effects	Conclusive but not sufficient for classification
Carcinogenic effects	This substance has no evidence of carcinogenic properties
Reproductive effects	Conclusive but not sufficient for classification
Developmental effects	Conclusive but not sufficient for classification
Aspiration hazard	Conclusive but not sufficient for classification

12. Ecological information

12.1 Toxicity

Not water endangering.

12.2 Persistence and degradability

The product is not readily biodegradable.

12.3 Bioaccumulative potential

The product is not bioaccumulating.

12.4 Mobility in soil

Not applicable, due to the form of the product.

12.5 Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6 Other adverse effects

None known

13. Disposal considerations

13.1 Waste treatment methods

Waste from residue/unused products

Disposal should be in accordance with applicable regional, national and local laws and regulations. Avoid dust formation.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

Note: Not classified as dangerous according to transport regulations.

DOT (US) Not regulated

IMDG/IMO Not regulated

RID Not regulated

ADR Not regulated

ICAO Not regulated

IATA Not regulated

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

Note: Regulations apply to dust.

United States Federal Regulations

OSHA	Non-hazardous
TSCA	Listed
CERCLA Reportable Quantity	No
SARA Title III	Section 302 Extremely Hazardous Substances: None Section 304 Emergency Release Reporting: None Section 311/312 Hazardous Categories: Immediate (acute) Section 313 Toxic Categories: None
Clean Air Act of 1990 – Title VI	This material does not contain nor was it manufactured using ozone depleting chemicals.

United States - State Regulations

California Proposition 65	Not listed
Cal-OSHA Workplace Airborne Contaminant	Listed
Connecticut Carcinogen Substances	Not listed
Florida Essential Chemical List	Not listed
Idaho Air Contaminant	Listed
Illinois Toxic Substances Disclosure to Employees List	Listed
Maine Chemicals of High Concern	Not listed
Massachusetts Right To Know List	Listed
Massachusetts Hazardous Substance Code	F9
Michigan Critical Materials List	Not listed
Minnesota Hazardous Substances	Listed
New Jersey Right To Know Hazardous Substances List	Listed
New York List of Hazardous Substances	Not listed
Ohio Extremely Hazardous Substances List	Not listed
Pennsylvania Right To Know Hazardous Substance	Listed
Rhode Island Hazardous Substances List	Listed
Texas Air Contaminant with Health Effects Screening Level	Listed
Washington Air Contaminant	Listed
Washington Persistent Bioaccumulative Toxins	Not listed
Wyoming Process Safety Management – Highly Hazardous Chemicals	Not listed

International Regulations

TSCA	Listed
EINECS/ELINCS	Listed on EINECS
DSL/NDSL	Listed on DSL
PICCS	Listed



ENCS	Listed, 1-23
IECSC	Listed
AICS	Listed
KECL	Listed, KE-01012
MITI	Listed

16. Other information including information on preparation and revision of the SDS

Prepared by: Allura Jiles
Revision date: 5/20/2015

Key

Occupational Exposure Limits

- PEL** Permissible exposure limit
- ACGIH** American Conference of Governmental industrial Hygienists

Transportation Regulations

- IMDG** International Maritime Dangerous Goods (UN)
- IMO** International Maritime Organization (UN)
- RID** European Agreement Concerning the International Carriage of Dangerous Goods by Rail
- ADR** European Agreement Concerning the International Carriage of Dangerous Goods by Road
- ICAO** International Civil Aviation Organization
- IATA** International Air Transport Association

Chemical Regulations

- EINECS** European Inventory of Existing Chemical Substances
- ELINCS** European List of Notified Chemical Substances
- DSL** Canadian Domestic Substances List
- NDSL** Canadian Non-Domestic Substances List
- PICCS** Philippines Inventory of Chemicals and Chemical Substances
- ENCS** Japan Existing and New Chemical Substances
- IECSC** China Inventory of Existing Chemical Substances
- AICS** Australian Inventory of Chemical Substances
- KECL** Korean Existing and Evaluated Chemical Substances
- TSCA** United States Toxic Substances Control Act Section 8(b) Inventory
- MITI** Japanese Ministry of Trade and Industry

Updates

The most current version of this Safety Data Sheet is available at this URL:
http://www.mcdanelceramics.com/pdf/MSDS_McD_Alumina.pdf

Disclaimer

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