

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

Printing date 12.04.2018

Revision: 12.04.2018

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

- **1.1 Product identifier**
- **Trade name:** Alumina
- **Article number:** 199, 9322, 9348, 9348-DV 1435, 9349, 9352, HW1558, #150, #152, #182, #183, #184, #191
- **Other product identifiers:** Aluminum oxide
- **CAS Number:**
1344-28-1
- **EC number:**
215-691-6
- **1.2 Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.
- **Application of the substance / the mixture:** Thermal spray powders
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Saint Gobain Coating Solutions
One New Bond Street
Worcester, MA 01615-0137
(508) 795-5000
CeramicMaterials@saint-gobain.com
- **1.4 Emergency telephone number:**
CHEMTREC
1-800-424-9300 (US/Canada) +01 703-527-3887 (International)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The product is not classified as hazardous according to the Globally Harmonized System (GHS).
The substance is not classified as hazardous according to the CLP regulation.
- **Additional information:**
Not hazardous as delivered. Long term inhalation of product dusts formed during use is harmful.
There are no other hazards not otherwise classified that have been identified.
0 % of the mixture consists of component(s) of unknown toxicity.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
This product does not have a classification according to the CLP regulation.
The product is not classified as hazardous according to OSHA GHS regulations within the United States.
- **Hazard pictograms** Not Regulated
- **Signal word** Not Regulated
- **Hazard-determining components of labelling:** None.

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- **Hazard statements** Not Regulated
- **Precautionary statements** Not Regulated.
- **Additional information:**
Safety data sheet available on request.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
1344-28-1 aluminum oxide
- **Identification number(s)**
- **EC number:** 215-691-6

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Brush off loose particles from skin.
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
- **After eye contact:**
Remove contact lenses if worn, if possible.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Breathing difficulty
Coughing
Slight irritant effect on skin and mucous membranes.
Slight irritant effect on eyes.
May cause gastro-intestinal irritation if ingested.
- **Hazards** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
The product is not flammable.
Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information** No further relevant information available.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Do not breathe dust.
Avoid formation of dust.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
- **6.2 Environmental precautions:** Avoid release to the environment.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose of the material collected according to regulations.
Send for recovery or disposal in suitable receptacles.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Use only in well ventilated areas.
Prevent formation of dust.
Any unavoidable deposit of dust must be regularly removed.
Use personal protective equipment as required.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.

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· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see section 7.

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

1344-28-1 aluminium oxide

PEL (USA)	Long-term value: 15*; 5** mg/m ³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m ³ as Al; *as respirable fraction
EL (Canada)	Long-term value: 1,0 mg/m ³ respirable, as Al
EV (Canada)	Long-term value: 10 mg/m ³ total dust

· **DNELs** No further relevant information available.

· **PNECs** No further relevant information available.

· 8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Avoid breathing dust.

Avoid contact with the eyes.

Avoid close or long term contact with the skin.

· **Respiratory protection:**

Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

Use suitable respiratory protective device in case of insufficient ventilation.

Use respiratory protection when grinding or cutting material.

Particulate mask should filter at least 99% of airborne particles.

· **Protection of hands:**

Wear gloves for the protection against mechanical hazards according to NIOSH or EN 388.

· **Eye protection:**



Safety glasses

· **Body protection:** Not required under normal conditions of use.

· **Limitation and supervision of exposure into the environment** Avoid release to the environment.

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· **Risk management measures** See Section 7 for additional information.

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Solid
· Colour:	White
· Odour:	Odourless
· Odour threshold:	Not determined.

· **pH-value:** Not applicable.

· Change in condition

· Melting point/Melting range:	2000 °C (3632 °F)
· Boiling point/Boiling range:	Not determined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Auto/Self-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

· Lower:	Not determined.
· Upper:	Not determined.

· **Oxidising properties** Not determined.

· **Vapour pressure:** Not determined.

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with water:**

Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

· Dynamic:	Not applicable.
· Kinematic:	Not applicable.

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- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Prevent formation of dust.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:** None.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Slight irritant effect on skin and mucous membranes.
- **Serious eye damage/irritation** Slight irritant effect on eyes.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Probable Routes of Exposure**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
- **Acute effects (acute toxicity, irritation and corrosivity):** None.
- **Repeated dose toxicity:**
Repeated or long-term inhalation of product dusts may cause pulmonary disease.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Smaller quantities can be disposed of with household waste.
Contact waste processors for recycling information.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|-----------------|
| · 14.1 UN-Number | |
| · DOT, ADR, IMDG, IATA | Not Regulated |
| · 14.2 UN proper shipping name | |
| · DOT, ADR, IMDG, IATA | Not Regulated |
| · 14.3 Transport hazard class(es) | |
| · DOT, ADR, IMDG, IATA | |
| · Class | Not Regulated |
| · 14.4 Packing group | |
| · DOT, ADR, IMDG, IATA | Not Regulated |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Not Regulated |

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SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

- Section 355 (extremely hazardous substances):

Substance is not listed.

- Section 313 (Specific toxic chemical listings):

Substance is listed.

- TSCA (Toxic Substances Control Act):

Substance is listed.

- Proposition 65 (California):

- Chemicals known to cause cancer:

Substance is not listed.

- Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

- Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

- Chemicals known to cause developmental toxicity:

Substance is not listed.

- Carcinogenic Categories

- EPA (Environmental Protection Agency)

Substance is not listed.

- IARC (International Agency for Research on Cancer)

Substance is not listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

- Canada

- Canadian Domestic Substances List (DSL)

Substance is listed.

- Canadian Ingredient Disclosure list (limit 0.1%)

Substance is not listed.

- Canadian Ingredient Disclosure list (limit 1%)

Substance is listed.

- Other regulations, limitations and prohibitive regulations

- Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

- **Sources**

Website, European Chemicals Agency (<http://http://echa.europa.eu/>)

Website, US EPA Substance Registry Services (http://http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (<https://www.cas.org>)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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