

**Safety Data Sheet (SDS)**

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

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Issue date 08/01/2018

Reviewed on 08/01/2018

**\* 1 Identification**

- **Product identifier**
- **Trade name: Arctic Alumina Thermal Adhesive**  
**Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Product description** Permanent Thermal Adhesive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Arctic Silver Incorporated  
9826 West Legacy Ave.  
Visalia, CA 93291 USA  
Voice: 559.740.0912  
Fax: 559.740.0913  
infoas@arcticsilver.com  
www.arcticsilver.com
- **Emergency telephone number:**  
Rocky Mountain Poison Control  
Toll Free: 877-740-5015  
Alternate: 303-739-1110

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
Epoxy resin  
Aluminum Oxide  
Boron Nitride
- **Hazard statements**  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.
- **Precautionary statements**  
Avoid breathing vapors.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves.

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Wear eye protection / face protection.  
 Wash thoroughly after handling.  
 Contaminated work clothing must not be allowed out of the workplace.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 Call a poison center/doctor if you feel unwell.  
 Wash contaminated clothing before reuse.  
 If skin irritation occurs: Get medical advice/attention.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If eye irritation persists: Get medical advice/attention.  
 If on skin: Wash with plenty of water.  
 Take off contaminated clothing and wash it before reuse.  
 Store locked up.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Unknown acute toxicity:**  
48 percent of the mixture consists of ingredient(s) of unknown toxicity.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMS-ratings (scale 0 - 4)**



- **Hazard(s) not otherwise classified (HNOC):** None known

**\* 3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

• <b>Dangerous Components:</b>		
CAS: 25068-38-6	Epoxy resin ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	45-60%
CAS: 1344-28-1 RTECS: BD 1200000	Aluminum Oxide ⚠ STOT SE 3, H335	20-35%
CAS: 10043-11-5	Boron Nitride ⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	15-25%

**\* 4 First-aid measures**

- **Description of first aid measures**
- **After inhalation:**  
Consult a doctor for complaints.  
In case of unconsciousness, place patient securely on side position for transportation.

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- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation occurs, consult a doctor.
- **After eye contact:**  
Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.  
Have eyes examined and tested by medical personnel.
- **After swallowing:**  
Seek immediate medical advice.  
Never give anything by mouth to an unconscious person.  
Do not induce vomiting.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** Use firefighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.  
Dispose of the collected material according to regulations.
- **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.

**\* 7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
KEEP OUT OF REACH OF CHILDREN! Avoid prolonged or repeated skin contact. Avoid breathing vapors.  
Do not incinerate or burn containers. Always replace overcap when not in use. Avoid use around open flames and other sources of ignition. Use only with adequate ventilation, opening doors or windows to achieve cross-ventilation. Ensure that all equipment is grounded to prevent static discharge. Containers of this material may be hazardous when emptied due to solid or vapor residue. Wash hands after use.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

• <b>Components with occupational exposure limits:</b>	
<b>25068-38-6 Epoxy resin</b>	
PEL	Short-term value: 5 mg/m <sup>3</sup> Long-term value: 15 mg/m <sup>3</sup>
STEL	Short-term value: 5 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup>
TLV	Long-term value: 10 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing and wash before reuse.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Select glove material based on penetration times, rates of diffusion and degradation.

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
- **Eye protection:**



Tightly sealed goggles

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**\* 9 Physical and chemical properties****· Information on basic physical and chemical properties****· General Information****· Appearance:****Form:** Viscous**Color:** White**· Odor:** A: Slight epoxy odor  
B: Mercaptan sulfur odor**· Odor threshold:** Not determined.**· pH-value:** Not determined.**· Change in condition****Melting point/Melting range:** Not determined.**Boiling point/Boiling range:** 2980 °C (5396 °F)**· Flash point:** > 204 °C (> 399 °F)**· Flammability (solid, gaseous):** Not applicable.**· Ignition temperature:****Decomposition temperature:** Not determined.**· Auto igniting:** Product is not self-igniting.**· Danger of explosion:** Product does not present an explosion hazard.**· Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**· Vapor pressure:** <0.15 mmHg**· Density @ 20 °C (68 °F):** 1.6-1.8 g/cm<sup>3</sup> (13.352-15.02 lbs/gal)**· Relative density** Not determined.**· Vapor density** Not determined.**· Evaporation rate** Not determined.**· Solubility in / Miscibility with****Water:** Not miscible or difficult to mix.**· Partition coefficient (n-octanol/water):** Not determined.**· Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**· Solvent content:****Organic solvents:** 0.0 %**· Other information** No further relevant information available.**\* 10 Stability and reactivity****· Reactivity** No further relevant information available.**· Chemical stability** Stable under normal conditions.**· Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**· Possibility of hazardous reactions** No dangerous reactions known.**· Conditions to avoid** Heat, flame and ignition sources.**· Incompatible materials:** Strong oxidizing agents, strong reducing agents

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**· Hazardous decomposition products:**

Fumes produced when heated to decomposition may contain carbon monoxide, carbon dioxide, ammonia, and aldehydes.

**11 Toxicological information**

**· Information on toxicological effects**

**· Acute toxicity:**

**· LD/LC50 values that are relevant for classification:**

**25068-38-6 Epoxy resin**

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

**· Primary irritant effect:**

**· on the skin:**

Irritant to skin and mucous membranes.

**· on the eye:**

Irritating effect.

Causes serious eye irritation.

**· Sensitization:** Sensitization possible through skin contact.

**· Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

**· Carcinogenic categories**

**· IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

**· NTP (National Toxicology Program)**

None of the ingredients are listed.

**· OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

**12 Ecological information**

**· Toxicity**

**· Aquatic toxicity:**

**25068-38-6 Epoxy resin**

EC50	3.6 mg/l (daphnia)
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**· Persistence and degradability** No further relevant information available.

**· Behavior in environmental systems:**

**· Bioaccumulative potential** No further relevant information available.

**· Mobility in soil** No further relevant information available.

**· Additional ecological information:**

**· General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

**· Results of PBT and vPvB assessment**

**· PBT:** Not applicable.

**· vPvB:** Not applicable.

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- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**\*14 Transport information**

- **UN-Number**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class** Non-Regulated Material
- **Packing group**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

• <b>Section 355 (extremely hazardous substances):</b>
None of the ingredients are listed.
• <b>Section 313 (Specific toxic chemical listings):</b>
1344-28-1   Aluminum Oxide
• <b>TSCA (Toxic Substances Control Act):</b>
All ingredients are listed.
• <b>California Proposition 65</b>
• <b>Chemicals known to cause cancer:</b>
None of the ingredients are listed.
• <b>Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients are listed.
• <b>Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients are listed.
• <b>Chemicals known to cause developmental toxicity:</b>
None of the ingredients are listed.

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• **Carcinogenic categories**

• <b>EPA (Environmental Protection Agency)</b>		
10043-11-5	Boron Nitride	I (oral)
• <b>TLV (Threshold Limit Value established by ACGIH)</b>		
1344-28-1	Aluminum Oxide	A4
• <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
None of the ingredients are listed.		

• **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS07

• **Signal word** Warning

• **Hazard-determining components of labeling:**

- Epoxy resin
- Aluminum Oxide
- Boron Nitride

• **Hazard statements**

- Causes skin irritation.
- Causes serious eye irritation.
- May cause an allergic skin reaction.
- May cause respiratory irritation.

• **Precautionary statements**

- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves.
- Wear eye protection / face protection.
- Wash thoroughly after handling.
- Contaminated work clothing must not be allowed out of the workplace.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a poison center/doctor if you feel unwell.
- Wash contaminated clothing before reuse.
- If skin irritation occurs: Get medical advice/attention.
- If skin irritation or rash occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- If on skin: Wash with plenty of water.
- Take off contaminated clothing and wash it before reuse.
- Store locked up.
- Store in a well-ventilated place. Keep container tightly closed.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

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<ul style="list-style-type: none"> <li>• <b>National regulations:</b></li> </ul>
<p>The product is subject to be classified according with the latest version of the regulations on hazardous substances.</p>
<ul style="list-style-type: none"> <li>• <b>State Right to Know</b></li> </ul>
<p>All ingredients are listed.</p>
<ul style="list-style-type: none"> <li>• <b>Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.</li> </ul>

**16 Other information**

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision** 06/04/2015 / 1
- **Abbreviations and acronyms:**  
 ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A  
 Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B  
 Skin Sens. 1: Sensitization - Skin, Hazard Category 1  
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- **\* Data compared to the previous version altered.**