

Safety Data Sheet (SDS)

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

Page 1/9

Issue date 06/04/2015

Reviewed on 06/04/2015

1 Identification

- **Product identifier**
- **Trade name:** Arctic Silver 5
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available
- **Product description** Silver and Ceramic Thermal Compound
- **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**



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Eye Irrit. 2B H320 Causes eye irritation.

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



GHS09

- **Signal word** Warning
- **Hazard statements**
Causes eye irritation.
Toxic to aquatic life with long lasting effects.
- **Precautionary statements**
Avoid release to the environment.
Wash thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Collect spillage.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**
10 percent of the mixture consists of ingredient(s) of unknown toxicity.

(Contd. on page 2)

Safety Data Sheet (SDS)

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

Issue date 06/04/2015

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-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.
- **Dangerous Components:**

CAS: 1314-13-2	Zinc Oxide	30-40%
RTECS: ZH 4810000	⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
CAS: 10043-11-5	Boron Nitride	<5%
	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	
CAS: 1344-28-1	Aluminum Oxide	<5%
RTECS: BD 1200000	⚠ STOT SE 3, H335	

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Generally the product does not irritate the skin.
If skin irritation occurs, consult a doctor.
- **After eye contact:**
Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes.
Have eyes examined and tested by medical personnel.
- **After swallowing:**
If swallowed and symptoms occur, consult a doctor.
If large quantities are ingested, seek medical advice.
- **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.

(Contd. on page 3)

Safety Data Sheet (SDS)

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

Issue date 06/04/2015

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Trade name: Arctic Silver 5

- **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:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
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**
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation at the workplace.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
(Ever, it's really bad for you.)
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool, dry place away from sparks and flame.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **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**
- **Components with occupational exposure limits:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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.
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:** Not required.

(Contd. on page 4)

Safety Data Sheet (SDS)

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

Issue date 06/04/2015

Reviewed on 06/04/2015

Trade name: Arctic Silver 5

*** 9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Grease

Color: Grey

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Not determined.

Boiling point/Boiling range: 2180 °C (3956 °F)

· **Flash point:** > 999 °C (> 1830 °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:** Not determined.

· **Density @ 20 °C (68 °F):** 4.05 g/cm³ (33.797 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Slightly soluble.

· **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.

(Contd. on page 5)

Safety Data Sheet (SDS)

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

Issue date 06/04/2015

Reviewed on 06/04/2015

Trade name: Arctic Silver 5

*** 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** No further relevant information available.
- **Incompatible materials:** Strong acids, strong bases, strong oxidizing agents and strong reducing agents.
- **Hazardous decomposition products:**
Carbon dioxide, carbon monoxide and nitrogen oxides.
Reacts with acids and alkalis to form combustible hydrogen gas.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
1314-13-2 Zinc Oxide
Oral LD50 > 5000 mg/kg (rat)
- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Additional toxicological information:**
- **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:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
- **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.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **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.
Poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 6)

Safety Data Sheet (SDS)

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

Issue date 06/04/2015

Reviewed on 06/04/2015

Trade name: Arctic Silver 5

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

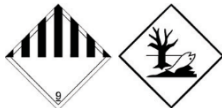
***13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. 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** Non-Regulated Material
- **ADR, IMDG, IATA** UN3082
- **UN proper shipping name**
- **DOT** Non-Regulated Material
- **ADR** UN3082 Environmentally hazardous substances, liquid, n.o.s. (Zinc Oxide)
- **IMDG** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc Oxide), MARINE POLLUTANT
- **IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc Oxide)
- **Transport hazard class(es)**
- **DOT**
- **Class** Non-Regulated Material

· **ADR**



- **Class** 9 (M6) Miscellaneous dangerous substances and articles
- **Label** 9

· **IMDG, IATA**



- **Class** 9 Miscellaneous dangerous substances and articles
- **Label** 9
- **Packing group**
- **DOT** Non-Regulated Material
- **ADR, IMDG, IATA** III
- **Environmental hazards:** Product contains environmentally hazardous substances: Zinc Oxide
- **Special marking (ADR):** Symbol (fish and tree)
- **Special marking (IATA):** Symbol (fish and tree)
- **Special precautions for user** Warning: Miscellaneous dangerous substances and articles

(Contd. on page 7)

Safety Data Sheet (SDS)

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

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- **Danger code (Kemler):** 90
- **EMS Number:** F-A,S-F
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**

- **ADR**
- **Excepted quantities (EQ)** Code: E1

- **IMDG**
- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** Code: E1

- **UN "Model Regulation":** UN3082, Environmentally hazardous substances, liquid, n.o.s. (Zinc Oxide), 9, III

***15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.
- **Section 313 (Specific toxic chemical listings):**
7440-22-4 Silver
1314-13-2 Zinc Oxide
1344-28-1 Aluminum Oxide
- **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
- **California Proposition 65**
- **Chemicals known to cause cancer:**
None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.
- **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)**
 - 7440-22-4 Silver
 - 1314-13-2 Zinc Oxide
 - 10043-11-5 Boron Nitride

D
D, I, II
I (oral)
(Contd. on page 8)

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- **TLV (Threshold Limit Value established by ACGIH)**

1344-28-1 Aluminum Oxide

A4

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

None of the ingredients are listed.

- **GHS label elements**

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

- **Hazard pictograms**



GHS09

- **Signal word** Warning

- **Hazard statements**

Causes eye irritation.

Toxic to aquatic life with long lasting effects.

- **Precautionary statements**

Avoid release to the environment.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Collect spillage.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

- **State Right to Know**

All ingredients are listed.

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

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 / 3

- **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

(Contd. on page 9)

Safety Data Sheet (SDS)

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

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Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Acute 1: Hazardous to the aquatic environment – Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

· *** Data compared to the previous version altered.**