

SAFETY DATA SHEET

Date Accessed: 25/08/2023

Date Revised: 25/01/2023

SECTION 1. IDENTIFICATION

Product Name: Yttrium Silicide

CAS #: 12067-55-9

Relevant identified uses of the substance: Scientific research and development

Supplier details:

Stanford Advanced Materials

E-mail: sales@samaterials.com

Tel: (949) 407-8904

Address: 23661 Birtcher Dr., Lake Forest, CA 92630 U.S.A.

SECTION 2. HAZARDS IDENTIFICATION

Hazard Statements:

H228: Flammable solid

H315 Causes skin irritation

H319 Causes serious eye irritation

H335: May cause respiratory irritation

Precautionary Statements:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking

P261 Avoid breathing dust/fume/vapor

P280: Wear protective gloves/protective clothing/eye protection/face protection

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses if present and easy to do – continue rinsing

P405: Store locked up

P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):Health: 1 (Powder), 0 (Bulk)

Flammability: 2 (Powder), 0 (Bulk)

Physical: 2 (Powder), 0 (Bulk)

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family: Ceramic

Additional Names: None

Yttrium silicide (YSi₂):

Percentage: 100 wt%

CAS #: 12067-55-9

EC #: 235-080-8

SECTION 4. FIRST AID MEASURES

General Treatment: Seek medical attention if symptoms persist.

Special Treatment: None

Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.

Ingestion: Seek medical attention.

Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and

easy to do. Continue rinsing

SECTION 5. FIREFIGHTING MEASURES

Flammability: Non-flammable, except as powder

Extinguishing Media: Do not use water for metal fires – use CO₂, sand, extinguishing powder.

Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

SECTION 6. ACCIDENTAL RELEASE MEASURES

If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal.

Take care not to raise dust.

Environmental Precautions: Isolate runoff to prevent environmental pollution.

SECTION 7. HANDLING AND STORAGE

Handling Conditions: Handle under dry protective gas. Wash thoroughly after handling. Storage

Conditions: Store in a cool dry place in a tightly sealed container. Store under dry inert gas.

Store apart from materials and conditions listed in section 10.

Work/Hygienic Maintenance: Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Permissible Exposure Limits: 1 mg/m³ as Y, long-term value

Threshold Limit Value: 1 mg/m³ as Y, long-term value

Special Equipment: None

Respiratory Protection: Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are

appropriate. Only use equipment tested and approved under appropriate government standards.

Protective Gloves: Nitrile rubber, NBR 0.11mm thick.

Eye Protection: Safety glasses or goggles

Body Protection: Protective work clothing. Wear close-toed shoes and long sleeves/pants.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Color Grey

Form: Powder, Granules, Pellets, Sputtering target, Custom parts

Odor: Odorless

Water Solubility: Insoluble

Boiling Point: N/A

Melting Point: 1760 °C

Flash Point: N/A

Autoignition Temperature: N/A

Density: 4.39 g/cc

Molecular weight: 145.08 g/mol

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions

Reacts With: Halogens, Interhalogens, Oxidizing agents

Incompatible Conditions: Air, Water/moisture

Hazardous Decomposition Products: Metal oxide fume

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health EffectsEyes: May cause irritation

Skin: May cause irritation

Ingestion: May cause irritation

Inhalation: May cause irritation

Chronic: N/A

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: 3160 mg/kg for rat by mouth

Carcinogen: N/A

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Low

Persistent Bioaccumulation Toxicity: No

Very Persistent, Very Bioaccumulative: No

Notes: N/A

SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state, national, and international regulations.

SECTION 14. TRANSPORT INFORMATION

Hazardous: Hazardous as powder only.

Hazard Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives

Packing Group: II

UN Number: UN3178

Proper Shipping Name: Flammable solid, inorganic, n.o.s. (Yttrium silicide)

SECTION 15. REGULATORY INFORMATION

Sec 302 Extremely Hazardous: No

Sec 304 Reportable Quantities: N/A

Sec 313 Toxic Chemicals: No

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.