LTS Research Laboratories, Inc.
Safety Data Sheet
Yttrium Disilicate

1. Product and Company Identification

Trade Name:	Yttrium Disilicate
Chemical Formula:	$Y_2Si_2O_7$
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	37 Ramland Road
City:	Orangeburg
State:	New York
Zip Code:	10962
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger

Hazard Statements:
H319 Causes serious eye irritation
H350: May cause cancer
H373: May cause damage to organs through prolonged or repeated exposure

Precautionary Statements:
P260: Do not breathe dust/fume/gas/mist/vapours/spray
P264: Wash thoroughly after handling
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
P308+P313: If exposed or concerned: Get medical advice/attention
P337+P313: If eye irritation persists get medical advice/attention
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	1
Flammability:	0
Physical:	1

3. Composition

Chemical Family:	Ceramic
Additional Names:	Yttrium Silicate, Yttrium Silicon Oxide
Yttrium oxide (Y_2O_3):	
Percentage:	0-100 wt%
CAS #:	1314-36-9
EC #:	215-233-5
Silicon Oxide (SiO_2):	
Percentage:	0-100 wt%
CAS #:	14808-60-7
EC #:	238-878-4

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	May cause cancer May cause damage to the lung, the spleen, the blood and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalation
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
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

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire
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.

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.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Material is hygroscopic. Store under dry protective 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.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.05 mg/m^3 as SiO_2, long-term value
Threshold Limit Value:	0.025 mg/m^3 as SiO_2, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator (type P100 (USA) or P3 (EN 143))
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles with side shields (NIOSH (US) or EN 166 (EU))
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	345.9785 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Oxidizing agents
Incompatible Conditions:	Water/Moisture, Air, Acids.
Hazardous Decomposition Products:	Yttrium Oxide, Silicon Oxide, Metal oxide fume

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	May cause damage to the lung, the spleen, the blood and the endocrine system through prolonged or repeated exposure. Route of exposure: Inhalation Liver - Irregularities - Based on Human Evidence Lungs - Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stages, loss of appetite, pleuritic pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Crystalline silica is classified as group 1 "known to be carcinogenic to humans" by IARC and "sufficient evidence" of carcinogenicity by the NTP. - Based on Human Evidence
Signs & Symptoms:	N/A

Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	Human Carcinogen IARC: 1 - Group 1: Carcinogenic to humans (Quartz) NTP: Known - Known to be human carcinogen (Quartz) OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. ACGIH A2: Suspedted human carcinogen: Agent is carcinogenic in experimental animals at does levels by route(s) of administration, at site(s), of histologic type(s) or by mechanism(s) considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to conflicting or insufficient to confirm an increased risk or cancer in exposed humans. NTP-K: Known to be carcinogenic: sufficient evidence from human studies.

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system. Avoid transfer into the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous:	Not hazardous for transportation.
Hazard Class:	N/A
Packing Group:	N/A
UN Number:	N/A
Proper Shipping Name:	N/A

15. Regulatory Information

Sec 302 Extremely Hazardous:	N/A
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	N/A

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised: 10/08/2018