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Novacite®

Material Safety Data Sheet

ALL GRADES OF NOVACITE®

10/06/2011 **Revision Number 4**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	**Novacite®**
Synonyms	**Novaculite, Silicon Dioxide, Silica, Micro Crystalline Silica, Tripoli, Free Silica, All Grades of Novacite®**
Emergency Telephone Number	**+1-501-623-8893**
Application of Substance/the preparation	**Paints, Coatings, Abrasives, Elastomers, Thermoplastics, Resin Systems, Adhesives, …**
Additional information available from	**www.malvernminerals.com**

Contact Manufacturer

Malvern Minerals Co.—P.O. Box 1238—Hot Springs,--Arkansas—71902

2. HAZARDS IDENTIFICATION

Emergency Overview	• Non-combustible

Eye Contact	• Contact with the eye may cause irritation
Skin Contact	• No adverse effects
Inhalation	• Silicosis, Cancer, Nephrotoxicity, Autoimmune Diseases, Tuberculosis **(see Section 11. Toxicological Information)**
Ingestion	• Not applicable
Classification	
Signs and Symptoms of Exposure	• There are generally no signs or symptoms of exposure to crystalline silica.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Haz/Non-Haz

Ingredients	**Chemical Formula**	**Typical % by Weight**	**CAS #**
Crystalline Silica (quartz)	SiO_2	99.12%	14808-60-7
Aluminum Oxide	Al_2O_3	.04%	1344-28-1
Titanium Oxide	TiO_2	.015%	13463-67-7
Iron Oxide	Fe_2O_3	.04%	1309-37-1
Proprietary		.785%	

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4. FIRST AID MEASURES

Gross Inhalation	Remove person to fresh air, give artificial respiration as needed, seed medical attention as needed.
Eye Contact	Flush eyes immediately with water. If irritation continues, seek medical attention.
Skin Contact	Wash exposed skin with soap and water.
Ingestion	N/A
Medical Conditions Aggravated by Exposure	Conditions of individuals with lung disease can be aggravated by exposure to respirable silica (quartz).

5. FIRE-FIGHTING MEASURES

Crystalline silica, in the form of quartz, is not flammable, combustible or explosives.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear personal protective equipment. Avoid dust formation.
Environmental Precautions	No special environmental precautions required.
Methods for Clean-up	Use dustless methods (HEPA vacuum or wet method). Do not sweep.

7. HANDLING AND STORAGE

Technical Measures	Be careful with bags or containers to prevent spills or damage to bags. Do not use as a dry abrasive blasting agent. Use good housekeeping in storage areas and keep dust off of floor, bags and rafters. Store in a dry place.
Safe Handling Advice	Avoid dust formation in enclosed spaces. Employees that are handling micro silica (quartz) need to be trained in accordance with State and Federal regulations.
Precautions	Do not breathe dust. Use adequate ventilation and proper dust collection **(See Section 8 for proper respiratory equipment).**

IN CASE OF RESALE, BAGS AND CONTAINERS MUST HAVE APPROPROATE WARNING LABELS ATTACHED AND POSTED AS TO MSHA AND OSHA PRECAUSIONS AND REGULATIONS. PROVIDE PROPER TRAINING FOR YOUR EMPLOYEES.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Weight%	OSHA PEL	ACGIH TLV	NIOSH REL
Crystalline Silica (quartz)	99.12%	$\frac{10\ mg/m^3}{\%\ SiO_{2+2}}$	.05	.05

Personal Protective Equipment

Ventilation	Use sufficient exhaust to maintain exposures below occupational exposure limits (PEL).
Respiratory Protection	Use appropriate respiratory protection as covered in the most recent standards on ANSI (Z88.2), OSHA (29 CFR 1910.134), MSHA (30 CFR Parts 56 and 57) and NIOSH logic.
Gloves	Recommended
Eye Protection	Safety glasses or goggles are recommended.
General Hygiene	When using, do not eat, drink, or smoke. Regular cleaning of equipment, work area and clothing.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White to gray powder	**Evaporation Rate**	N/A
Odor	None	**Specific Gravity**	2.65
Vapor Pressure (mm Hg.)	10 mm@1732°C	**Melting Point**	1710°C
Vapor Density	N/A	**Solubility in Water**	Insoluble

10. STABILITY AND REACTIVITY

Stability	Crystalline silica (quartz) is stable.
Incompatibility	Don't contact with oxidizing agents such as fluorine and manganese trioxide.
Hazardous Decomposition or Byproducts	Silica will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.
Hazardous Polymerizatiion	Will not occur.

11. TOXICOLOGICAL INFORMATION

Novacite® is a uniquely platy form of silica. Excessive and long-term exposure to silica dust may cause lung disease or silicosis.

When crystalline silica is heated to more than 870°C it forms trydimite. Crystalline silica heated over 1470°C can change to cristobalite. The OSHA PEL for crystalline silica as trydimite and cristobalite is half of the OSHA PEl for crystalline silica (quartz).

HEALTH HAZARDS

1. **Silicosis** — Respirable crystalline silica can cause a scarring of the lungs (fibrosis) known as silicosis. Symptoms include cough, shortness of breath, wheezing and reduced pulmonary function. The disease may be aggravated by smoking. Silicosis may be progressive and may lead to disability and death.
2. **Cancer** — Crystalline silica, inhaled from occupational sources, is considered a carcinogenic to humans. Refer to **IARC Monograph 68, Silica, Some Silicates and Organic Fibers** (published in June '97).
3. **Nephrotoxicity** — There are some studies that show an increased occurrence of chronic kidney disease and end-stage renal disease in workers exposed to excessive respirable crystalline silica.
4. **AD** — (Autoimmune Disease) There are several studies showing an increased frequency of contracting scleroderma and other connective tissue disorders in workers exposed to respirable crystalline silica.
5. **Tuberculosis** — Silicosis increased the risk of tuberculosis.

12. ECOLOGICAL INFORMATION

No Ecotoxic data is available.

13. DISPOSAL

Dispose of waste by any approved solid waste disposal method-limit exposure so that it does not exceed OSHA standard TLV. Wet to limit dust.

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14. TRANSPORTATION INFORMATION

U.S. DOT HAZARD CLASSIFICATION For purposes of transportation under the U.S. Department of Transportation Table of Hazardous Materials, 49 CFR § 172.101, crystalline silica is not considered a hazardous material.

15. REGULATORY INFORMATION

TSCA	All of the components of Novacite® are on the inventory or exempt from the notification req.
SARA 311/312	Chronic health
SARA 313	None
CERCLA Section 103	None
CEPA	Naturally occurring silica is listed on the Domestic Substances List and is exempt.
EICCS	Exempt from notification requirements. **EINECS number for Quartz is 231-545-4**
PROP 65	Crystalline silica is classified as a carcinogen.
AICS	Exempt from notification requirements.
Japan MITI	All components are defined in the Chemical Substance Control Law.
WHMIS	Classification: D2A
IARC	Crystalline silica is classified in IARC Group 1.
REACH	Novacite® does not contain about 0.1% (w/w) of any SVHC
RoHS	Novacite® does not contain about 0.01% (w/w) of Lead, Mercury, Cadmium, Hexavalent Chromium, PBB, or PBDE.

16. OTHER INFORMATION

Hazardous Materials Information Systems (HMIS)			
Health *	Flammability 0	Reactivity 0	Protective Equipment E

*** See section 3 and section 11 of this MSDS**

National Fire Protection Association NFPA		
Health 0	Flammability 0	Reactivity 0

IMPORTANT: While Malvern Minerals Co. believes the information contained herein to be accurate, Malvern Minerals Co. makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The buyer assumes all responsibility for handling, using and/or reselling the product in accordance with the applicable federal, state, and local law. This MSDS shall not in any way limit or preclude the operation and effect of any of the provisions of Malvern Minerals Company's terms and conditions of sale.