MSDS No. 011	Effective Date: 20/09/2016

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: **RIGIDIZER**

Manufacturer/Supplier: **Unifrax India Private Limited,**
503, Kailash Tower, Behind STC, Colony,
Andheri East, Mumbai 400 069.
Tel . 91-22-2682 1468 / 29212200

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS #	% BY WEIGHT
Water	7732-18-5	70-82
SiO2 (amorphous)	7631-86-9	18-30

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! MAY BE HARMFUL IF SWALLOWED. MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. ODORLESS WHITE LIQUID.

HAZARD RATINGS

HAZARDOUS MATERIALS INFORMATION SYSTEM (HMIS) RATINGS:
Health: 1 Flammability: 0 Reactivity: 0 Personal Protection Index: X

POTENTIAL HEALTH EFFECTS

TARGET ORGANS: Skin, eyes, and lungs.

INHALATION: If inhaled in sufficient quantity, may cause respiratory tract irritation. Symptoms may include scratchiness of the nose or throat, cough or chest discomfort.

EYE CONTACT: Slightly to moderately irritating. Contact may cause irritation with redness and pain.

SKIN CONTACT: Slightly to moderately irritating. Prolonged contact with dust may cause drying of the skin.

INGESTION: If ingested in sufficient quantity, may cause gastrointestinal disturbances. Symptoms may include nausea, vomiting, or abdominal pain.

CHRONIC EFFECTS: None identified.

HAZARD CLASSIFICATION:

The **International Agency for Research on Cancer (IARC)** has determined that amorphous silica is not classifiable as to its carcinogenicity to humans (Group 3).

4. FIRST AID MEASURES

FIRST AID PROCEDURES

INHALATION: If respiratory tract irritation occurs, relocate individual. Get medical attention if irritation persists. See Section 8 for additional measures to reduce or eliminate exposure.

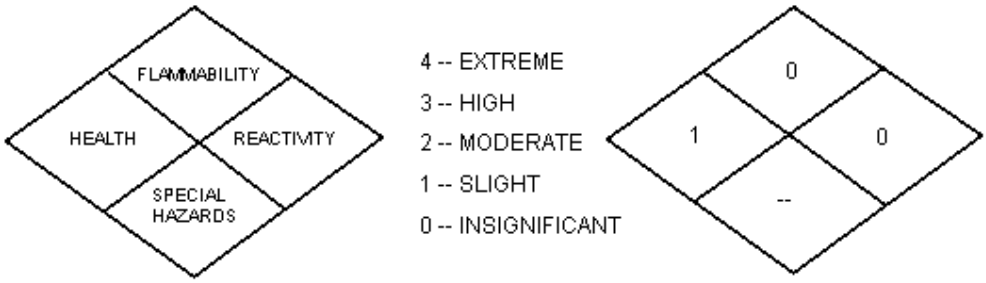
EYE CONTACT: If eyes become irritated, flush immediately with large amounts of lukewarm water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes. Get medical attention if irritation persists.

SKIN CONTACT: If skin becomes irritated, do not rub or scratch exposed skin. Wash area of contact thoroughly with soap and water. Using a skin cream or lotion after washing may be helpful. Change into clean clothing.

INGESTION: If gastrointestinal irritation occurs, relocate individual to a dust free environment. Seek medical attention if symptoms persist.

NOTES TO PHYSICIANS: None.

5. FIRE FIGHTING MEASURES



NFPA Unusual Hazards: None

Flammable Properties: Flammable Limits:
Flashpoint: None. Lower Flammable Limit: N. App.
Method: N. App Upper Flammable Limit: N. App.

Autoignition Temperature: None.

Extinguishing Media: Use extinguishing media suitable for type of surrounding fire.

Fire Fighting Instructions: See "Extinguishing Media" above.

Unusual Fire and Explosion Hazard: None.

6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES

Do not walk through spilled material. Shovel into a container for later disposal. Avoid cleanup procedures that may result in water pollution.

7. HANDLING AND STORAGE

HANDLING AND STORAGE

Normal conditions of use and application are not expected to release respirable particulates. Removal of used product, sanding, scraping, or otherwise destroying the integrity of the dried product may result in the release of particulates. During such operations, appropriate respiratory protection should be provided as discussed below and/or in Section 8 under Respiratory Protection.

Minimize airborne dusts by avoiding the unnecessary disturbance of materials.

Clean Up
Dust suppressing cleaning methods such as wet sweeping or vacuuming should be used to clean the work area. If vacuuming is used the vacuum must be equipped with a HEPA filter. Compressed air or dry sweeping should not be used for cleaning. Dust suppressing compounds may be used to clean up light dust.

EMPTY CONTAINERS: Product packaging may contain residue. Do not reuse.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES

ACGIH TLV's: Water -- None established. Silica (amorphous) -- 10 mg/m³ inhalable particulate, 3 mg/m³ respirable particulate.

ENGINEERING CONTROLS

Dust suppressing control technologies such as local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs, and materials handling equipment are effective means of minimizing airborne particulate emissions.

PERSONAL PROTECTION EQUIPMENT

EYE PROTECTION: Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses unless chemical goggles are also worn. Do not touch eyes with soiled body parts or materials. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: Wear gloves, head coverings and full body clothing as necessary to

prevent skin irritation. Washable or disposable clothing may be used. If possible, do not take unwashed clothing home. Work clothes should be washed separately from other clothing and the washing machine rinsed thoroughly following use. Inform the launderer of the proper procedures. Store work clothes and street clothes separately.

RESPIRATORY PROTECTION: When engineering and/or administrative controls are

insufficient, the use of appropriate respiratory protection, pursuant to the requirements of OSHA 1910.134 AND 29 CFR 1926.103, is recommended. The evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified Industrial Hygienist.

9. PHYSICAL AND CHEMICAL PROPERTIES

Odor and Appearance: Odorless, white liquid.
Chemical Family: Amorphous silica
Boiling Point: 100° C (212° F) % Solubility in Water: N. D.
Melting Point: N. App. Specific Gravity: 1.2

Vapor Pressure: 17.5 @20° C (68° F) pH: 9.5 – 10.0
Vapor Density (Air = 1): 1.0 % Volatile: 65-73%
Molecular Weight: N. App. Molecular Formula: N. App.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under conditions of normal use.

INCOMPATIBILITY: Soluble in hydrofluoric acid, phosphoric acid, and concentrated alkali.

CONDITIONS TO AVOID: None.

HAZARDOUS POLYMERIZATION: Not Applicable.

11. TOXICOLOGICAL INFORMATION

The International Agency for Research on Cancer (IARC), has concluded that amorphous silica is "not classifiable as to its carcinogenicity to humans (Group 3)" based on "inadequate evidence in humans for the carcinogenicity of amorphous silica" and "inadequate evidence in experimental animals for the carcinogenicity of synthetic amorphous silica" (IARC Monograph 68, June 1997, p. 210-211).

EPIDEMIOLOGY:

IARC noted that "very little epidemiological evidence was available" for amorphous silica. In evaluating the results of three community-based case-control studies, IARC concluded that "no association was detected for mesothelioma with biogenic amorphous silica fibres." (IARC Monograph 68, June 1997, p. 208).

TOXICOLOGY:

A food-grade miconized synthetic amorphous silica was tested by oral administration to mice and rats. No increased incidence of tumors was seen. In another study in rats, using intrapleural implantation of two different preparations of synthetic amorphous silica, no increased incidence of tumors were observed (IARC Monograph 68, June 1997, p. 209).

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No data available.
Distribution: No data available.
Chemical Fate Information: No data available.

13. DISPOSAL CONSIDERATIONS

DISPOSAL: This product is not classified as a hazardous waste according to Federal regulations (40 CFR 261). Check local, regional, state or provincial regulations for applicable requirements for disposal. Any processing, use, alteration or chemical additions to the product, as purchased, may alter the disposal requirements. Under Federal regulations, it is the waste generator's responsibility to properly characterize a waste material, to determine if it is a "hazardous" waste.

EMPTY CONTAINERS: Product packaging may contain product residue. Do not reuse.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

BILL OF LADING DESCRIPTION (49 CFR 172.202): RIGIDIZER (NON-REGULATED)

UNITED NATIONS (UN) NUMBER: NOT APPLICABLE

NORTH AMERICA (NA) NUMBER: NOT APPLICABLE

15. REGULATORY INFORMATION

Key statutory and regulatory classifications or listings for the product, as manufactured, which may impact product storage, use, handling or disposal:

U.S. FEDERAL REGULATIONS

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA):

Constituents regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA 40 CFR 302):

Constituent	RQ in Pounds

NONE

Clean Air Act (CAA):

Substances regulated as hazardous air pollutants under Section 112 of the Clean Air Act Amendments of 1990:

Chemical Name

NONE

Toxic Substances Control Act (TSCA):

All substances in this product are listed, as required, on the TSCA inventory.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:
SARA Hazard Category:

Listed below are the hazard categories for the Superfund Amendments and Reauthorization Act (SARA) Section 311/312 (40 CFR 370):

Immediate Hazard: -- Fire Hazard: -- Reactivity Hazard: --
Delayed Hazard: X Pressure Hazard: --

SARA 313 Information:

Toxic chemical(s) subject to the annual reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372):

Chemical Name CAS Number Concentration
NONE

SARA 302/311/312 Information:
Extremely hazardous substances subject to the notification and inventory reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 302 (40 CFR 355) and Section 311/312 (40 CFR 370) respectively:

Chemical Name CAS Number Concentration
NONE

CANADIAN REGULATIONS

Canadian Workplace Hazardous Materials Information System (WHMIS):
The following Canadian Workplace Hazardous Materials Information System (WHMIS) categories apply to this product:

Compressed Gas: -- Flammable/Combustible: -- Oxidizer: -- Acutely Toxic: --
Other Toxic Effects: X Biohazardous: -- Corrosive: --- Dangerously Reactive: --

Canadian Environmental Protection Act (CEPA):
All substances in this product are listed, as required, on the Domestic Substances List (DSL).

Chemical(s) which are listed on the Non-Domestic Substances List:

Chemical Name CAS Number
NONE

16. OTHER INFORMATION

Definitions:

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service
EPA: Environmental Protection Agency
HEPA: High Efficiency Particulate Air
HMIS: Hazardous Materials Information System
mg/m³: Milligrams per cubic meter of air
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
29 CFR 1910.134 & 1926.103: OSHA Respiratory Protection Standard
29 CFR 1910.1200 & 1926.59: OSHA Hazard Communication Standard

PEL: Permissable Exposure Limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
Title III: Emergency Planning and Community Right to Know Act
Section 302: Extremely Hazardous Substances
Section 304: Emergency Release
Section 311: MSDS/List of Chemicals and Hazardous Inventory
Section 312: Emergency and Hazardous Inventory
Section 313: Toxic Chemicals and Release Reporting
TLV: Threshold Limit Value (ACGIH)
TSCA: Toxic Substances Control Act

DISCLAIMER

The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.