



## 7. HANDLING AND STORAGE

RECOMMENDED STORAGE CONDITIONS: Store in original container. Keep in a dry place.

HANDLING (PERSONNEL): Handle in accordance with good hygiene and safety procedures. Avoid breathing dust if present. Wash thoroughly after handling. Handle and open container with care. Avoid formation of dust particles. Avoid contact with skin and eyes. Provide an electrical ground connection during loading and transfer operations to avoid static discharge in an explosive atmosphere and to prevent persons handling the product from receiving static shocks.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS: See Section 2 above.

VENTILATION SYSTEM: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

PERSONAL RESPIRATORS (NIOSH APPROVED): If the respirable particulate exposure limit is exceeded, wear a NIOSH approved dust mask. NIOSH classification N-100 or if oil/liquid aerosols are present P-100 (42 CFR 84).

SKIN PROTECTION: Protective gloves.

EYE PROTECTION: When mechanically working this product, safety glasses with side shields or coverall goggles are recommended for airborne dust exposures in excess of the applicable limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Beads

ODOR: odorless

SOLUBILITY IN WATER: N/D

MELTING/FREEZING POINT: Not available

Auto ignition Temperature: Not available

Flash Point & Method: Not applicable – non-flammable

VOC = None

COLOR: Tan

BOILING POINT: N/A

SPECIFIC GRAVITY: N/D

Evaporation Rate: Not applicable

pH: 8-11 (as an aqueous slurry)

VAPOR PRESSURE: @ 72 F N/D

## 10. STABILITY AND REACTIVITY

STABILITY: The material is stable.

CONDITIONS TO AVOID: Contact with incompatibles, see below.

POLYMERIZATION: Polymerization will not occur.

INCOMPATIBILITY: Sudden contact with high concentrations of chemicals having high heats of adsorption such as olefins, HCl, etc. When first wetted, the product can heat up to the boiling point of water. Flood with water to cool material.

DECOMPOSITION PRODUCTS: No decomposition if used as directed. Hydrocarbons and other materials that contact the product during normal use can be retained on the product. It is reasonable to expect that decomposition products will come from these retained materials of use.

HMIS/NFPA Rating:

Health - 1, Flammability - 0, Reactivity - 1, Personal Protection Index - t

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

Protective Equipment: t = Dust respirator under dust generating conditions.

**POTENTIAL HEALTH EFFECTS**

**INHALATION:**

Acute, short term exposure; mild and temporary discomfort to respiratory tract. Similar to nuisance dust. Repeated and prolonged inhalation of crystalline silica in the form of quartz and cristobalite from occupational sources may cause cancer.

**INGESTION:** The product gets hot as it first adsorbs water. Burns to moist body tissues can result if contact is prolonged.

**SKIN CONTACT:** No hazard known or expected. May cause skin irritation. The product gets hot as it first adsorbs water

**EYE CONTACT:** Dust may cause mechanical irritation, redness, pain, and corneal damage if not flushed out promptly.

**CHRONIC EXPOSURE:** Chronic, long term exposure (10 years - 30 years), may result in pulmonary fibrosis (silicosis). Aggravates bronchitis, asthma and emphysema.

**CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Bronchitis, Emphysema and Asthma. Smoking is known to aggravate the effects of exposure. Persons with silicosis may develop tuberculosis. Exposure to crystalline silica may also result in scleroderma and/or kidney disease.

**Carcinogenicity Classification:**

**International Agency for Research on Cancer (IARC):**

Silicon oxide (synthetic) - Unclassifiable as to carcinogenicity in humans (Group 3).

Inhaled crystalline silica in the form of quartz from occupational sources is carcinogenic to humans (Group 1).

Inhaled crystalline silica in the form of cristobalite from occupational sources is carcinogenic to humans (IARC Group 1).

**U.S. National Toxicology Program (NTP):**

Quartz - Known human carcinogen.

Cristobalite - Known human carcinogen.

**U.S. Occupational Safety and Health Administration (OSHA):**

Quartz - Known Carcinogen.

Cristobalite - Known Carcinogen.

**American Conference of Governmental Industrial Hygienists (ACGIH):**

Aluminum oxide - Not Classifiable as a Human Carcinogen (A4).

Quartz - Suspected Human Carcinogen (A2)

**4. FIRST AID MEASURES**

**INHALATION FIRST AID:**

If a respiratory problem develops from dust. Remove victim to fresh air and provide oxygen if

breathing is difficult. Get medical attention. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility. Normally all that is required will be to bring victim to fresh clean air.

**SKIN CONTACT FIRST AID:**

Wash off with soap and plenty of water. If skin irritation persists, call a physician.

**EYE CONTACT FIRST AID:**

If dust comes into contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**INGESTION FIRST AID:**

Immediately give large volume of water to drink. If symptoms persist, call a physician.

**STATEMENT OF PRACTICAL TREATMENT:** Always have plenty of water available for first aid. Get medical attention if any symptoms develop or persist. This product is a desiccant and generates heat as it adsorbs water. The used product can contain material of a hazardous nature. Identify that material and treat symptomatically.

## **5. FIRE FIGHTING MEASURES**

**FLAMMABLE PROPERTIES:** Not flammable.

**FLAMMABLE LIMITS IN AIR, % by Volume:** Not applicable

**AUTO IGNITION TEMPERATURE:** Not available

**EXTINGUISHING MEDIA:** Water, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep exposed material cool. Do not allow water runoff to enter sewers or waterways.

**FIRE & EXPLOSION HAZARDS:** The product itself does not burn. The used product can retain material of a hazardous nature. Identify that material and inform the fire fighters.

**SPECIAL PROTECTIVE EQUIPMENT:** In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust Impervious protective suit.

## **6. ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS:** Physical form requires no obvious personal protective equipment when cleaning up spills. Wear a dust mask if particulate count exceeds limits. See section 8.

**SPILLS PROCEDURE:** Sweep, shovel or vacuum spilled product into appropriate containers (do not use a vacuum if material has contacted a hydrocarbon material). Pick-up and arrange disposal without creating dust. Never use spilled product. Spilled product should be disposed of in accordance with all applicable government regulations.

**ENVIRONMENTAL PRECAUTIONS:** None.

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity:

LD50/oral/rat = > 32 000 mg/kg \*

LD50/dermal/rabbit = > 2 000 mg/kg \*

LC50/inhalation/rat = No data available.

Chronic toxicity:

EC Carcinogenic:

EC Mutagenic:

EC Toxic for Reproduction:

Classification of Ingredients

Not listed.

Not listed.

Not listed.

Carcinogenicity (ACGIH):

A4 (Aluminum oxide)

A2 (Quartz)

IARC classification:

Group 3 (Silicon oxide - synthetic)

Group 1 (Quartz)

Group 1 (Cristobalite)

Routes of exposure: Exposure may occur via inhalation, contact with skin and eyes.

Irritation:

Skin (rabbit): Not classified as a skin irritant in animal testing.

Eye (rabbit): Not classified as an eye irritant in animal testing.

Local effects:

Dust may cause mechanical irritation of eyes. Chronic, long term exposure (10 years - 30 years), may result in pulmonary fibrosis (silicosis). Aggravates bronchitis, asthma & emphysema.

Sensitization:

Not known to occur with this material.

## 12. ECOLOGICAL INFORMATION

Material offers no known environmental hazard.

## 13. DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL:** This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's RCRA regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity). Materials of a hazardous nature that contact the product during normal use may be retained on this product. The user of the product must identify the hazards associated with the retained material in order to assess the waste disposal options..

**CONTAMINATED MATERIALS:** Wash contaminated clothing before reuse.

**14. TRANSPORTATION INFORMATION**

**Domestic (Land, D.O.T.), International (Water, I.M.O.), International (Air, I.C.A.O.)**  
 PRODUCT LABEL: **AD-1 Desiccant** UN NUMBER: Non-Regulated material  
 PACKAGE CLASS: 50 D.O.T. HAZARD CLASS: NA  
 D.O.T. PROPER SHIPPING NAME: Not regulated PACKING GROUP: NA  
 PRODUCT RQ (LBS): None

*Not classified as hazardous or dangerous in the meaning of transport regulations.*

**15. REGULATORY INFORMATION - FEDERAL REGULATORY STATUS**

OSHA Classification: Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200. As a respirable dust only.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) Reportable Quantity (RQ):  
None

The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity:  
None

Carcinogenicity: by IARC?: Yes (X) No ( ) by NTP?: Yes (X) No ( )  
 IARC classifies crystalline silica in Group 2A, "probably carcinogenic to humans."  
 NTP classifies respirable crystalline silica in a category of substances which may "reasonably be anticipated to be carcinogens."

SARA Title III (Superfund Amendments and Reauthorization Act of 1986):  
 Section 302 (Extremely Hazardous Substances):  
 The following component(s) of this product is/are subject to the emergency planning provisions of 40 CFR 355 when there are amounts equal to or greater than the Threshold Planning Quantity (TPQ):  
None

Section 313 (Toxic Chemicals):  
 The following component(s) have been specified as Toxic Chemicals under SARA Section 313 and may be subject to the Toxic Release Inventory (TRI) reporting requirements under 40 CFR 372:  
None

Poison Schedule: None allocated.

**The following components are listed in U.S. State Regulations:**

<b><u>State Reg Reference:</u></b>	<b><u>Component(s)</u></b>
California - Proposition 65:	Silica, crystalline
Massachusetts Right-To-Know:	Quartz Aluminum oxide Cristobalite dust

New Jersey Right-To-Know: Silica, amorphous  
Aluminum oxide  
Potassium oxide  
Silica, quartz  
Silica, cristobalite

Pennsylvania Right-To-Know: Silica  
Aluminum oxide  
Quartz  
Cristobalite

**Canada**

**Canadian Hazardous Products Act:**

This product is classified as a material causing other toxic effects, carcinogenicity - Class D, Division 2, Subdivision A, under regulations pursuant to the Federal Hazardous Products Act (e.g. WHMIS)

**Canadian Environmental Protection Act:**

All the ingredients of this mixture are notified to CEPA and on the DSL (Domestic Substances List).

**European Union (EU)**

**European Inventory of Existing Commercial Chemical Substances:**

All components of this product are included in EINECS/ELINCS.

**Council of European Communities Directive on Classification, Packaging and Labeling of Dangerous Substances/Preparation (67/548/EEC & 88/379/EEC):**

No Dangerous Goods Label Required.

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA). This material or all of its components are listed on the Canadian Domestic Substances List (DSL). This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS). Other inventory lists: ENCS (Japan), Korea, Australia, China (Draft), PICCS (Philippines), Japan (ENCS).

**16. OTHER INFORMATION**

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Approval Date.....: October 5, 2007

Part Number.....:  
Title.....: MSDS Coordinator  
Supersedes Date...: New (REV1)

**ADDITIONAL INFORMATION:**

The data in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998)

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END OF MSDS