

HMIS Index:

0- Minimal

1- Slight

2- Moderate

3- Serious

4- Severe

MATERIAL SAFETY DATA SHEET Epoch C8902

Aqueous Dispersion

HMIS Rating:

*1- Health

0- Flammability

0- Physical Hazard

Date Prepared: February 11, 2010 Date Revised: April 27, 2011 Prepared By: Michael Trembley/Product Stewardship Mgr.

Section 1. Chemical Product and Company Identification

Product Name: Epoch C8902 Aqueous Dispersion

Recommended Use of the Chemical and Restrictions on Use: Used as polishing slurry in the semiconductor industry and other applications.

Information on the Manufacturer/Supplier:

Cabot Microelectronics Corporation(CMC)- United States 870 N. Commons Dr. Aurora, IL 60504, United States

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Cabot Microelectronics Corporation- Singapore

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Cabot Microelectronics Corporation- Taiwan

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Information Service or Emergency Telephone No.: 031.719.7491, (Facsimile No.) 031.719.7494

Section 2. Hazards Identification

Emergency Overview:

Clear.

Caution: May cause skin and eye irritation. Do not breathe dust from dried product.

Potential Environmental Effects: None known.

Routes of Exposure: Eye, Skin.
Eye: May cause irritation to eye.
Skin: May cause irritation to skin.
Ingestion: May be harmful if swallowed.

Inhalation: Due to this material's liquid dispersion state, it is not expected to be a significant inhalation hazard. Dried product

may cause irritation to the respiratory tract.

Chronic Effects: 3-Amino-1,2,4 Triazole is listed as a suspect carcinogen by IARC, NTP, Z List or OSHA.

Teratology: None known.

Reproduction Info.: 3-Amino-1,2,4 Triazole is listed as a suspect reproductive hazard- endocrine disruptor.

Target Organs: None known.

Medical Conditions Aggravated: None known.

Section 3. Composition/Information on Ingredients			
Component Silica, Amorphous	CAS No. 7631-86-9	EINECS # 231-545-4	% by Weight <3%
	7031-80-9	231-343-4	< 370
3-Amino-1,2,4 Triazole	61-82-5	200-521-5	0.1%
Proprietary Ingredients	Proprietary	Proprietary	<18%
De-Ionized Water	7732-18-5	231-791-2	>79%

Section 4. First-Aid Measures

If the substance contacts eyes:

- -Immediately flush lightly with plenty of water for at least 15 minutes.
- -If symptoms develop seek medical attention.

If the substance contacts skin:

- -Flush affected area with water.
- -Remove contaminated clothing.
- -If symptoms develop seek medical attention.

If the substance is inhaled:

- -Remove to fresh air.
- -If breathing is difficult, give oxygen.
- -If not breathing, give artificial respiration.
- -If symptoms develop, seek medical attention.

If the substance is ingested:

- -Do not induce vomiting.
- -If conscious and alert, rinse mouth with water.
- -If symptoms develop seek medical attention.

Most Important Symptoms/Effects (Acute and Delayed): Not available.

First aid and Note to Physicians: Treat symptomatically if present.

Section 5. Explosion and Fire-fighting Measures

Suitable Extinguishing Media:

- -Use extinguishing media for surrounding fire.
- -Unsuitable Media: Not Applicable

Specific Hazards Arising From the Chemical:

-Not Applicable

Specific Protective Equipment and Precautions for Fire Fighters:

-Standard personal protective equipment for structural fire fighting.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

- -Safety glasses or goggles, impervious gloves and protective clothing recommended when handling.
- -If spilled material dries, creating airborne dust concentrations that exceed the applicable exposure limit, then an approved respirator for dust/fumes is recommended.

Environment Precautions:

-Do not allow material to surface waters.

Methods and Materials for Containment and Clean-Up:

- -Absorb with inert material (e.g., dry sand or earth), then place in chemical waste container.
- -Wear appropriate PPE. See Section 8.

Section 7. Handling and Storage

Precautions for Safe Handling:

- -Avoid skin and eye contact.
- -Avoid generating aerosols or mists.
- -Do not breathe aerosols, mists or dust from dried product.

Conditions for Safe Storage, Including Incompatibilities:

-Keep from freezing.

Hygienic Practices:

- -Avoid contact with skin.
- -Wash exposed skin frequently.
- -Good practices should be followed in regard to work clothing.

Section 8. Exposure Controls/Personal Protection

Exposure Limits, Biological Limit Values Etc.:

TLV (U.S.) = 10 mg/m^3 total dust for particles not otherwise classified

PEL (U.S.) = 10 mg/m^3 for nuisance dust. 15 mg/m^3 for total dust.

MAK (Germ.) = 4 mg/m^3 inhalable dust.

OES (U.K.) = 6 mg/m³ total inhalable, 2.4 mg/m³ respirable dust.

Australia (TLV) = 10 mg/m³ total dust containing no asbestos and <1% crystalline silica.

Korea: 10 mg/m³ (total dust)

Appropriate Engineering Controls:

-If operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below exposure limits.

Personal Protective Equipment:

Respiratory Protection:

· None normally needed unless mists or dust are generated.

An approved air-purifying respirator (APR) for dusts/mists may be appropriate to control exposure. Protection
provided by air-purifying respirators is limited. Us a positive-pressure, air supplied respirator if there is any potential
for uncontrolled release, exposure levels are not known, or any circumstances where air-purifying respirators may not
provide adequate protection. Use of respirators must include a complete respiratory protection program in accordance
with national standards and current best practices.

The following agencies/organizations approve respirators and/or criteria for respirator programs

U.S.: NIOSH approved under 42 CFR 84 required.

OSHA (29 CFR 1910.134)

ANSI Z88.2-1992

EU: CR592 Guidelines for the Selection and Use of Respiratory Protection. Germany: DIN/EN 143 Respiratory Protective Devices for Dusty Materials.

UK: BS 4275 Recommendations for the Selection, Use and Maintenance of Respiratory Protective Equipment.

HSE Guidance Note HS(G)53 Respiratory Protective Equipment.

Eye protection: Safety glasses with side shields or goggles recommended to prevent eye contact.

Hand protection: Impervious gloves.

Body protection: Wear appropriate clothing to minimize skin contact.

Section 9. Physical and Chemical Properties

Appearance: Colorless
*Odor: Weak pungent odor.
Odor Threshold: Not Applicable.

pH: 4.2.

Melting Point/Freezing Point: 0°C / 32°F.

Initial Boiling Point and Boiling Range: 100°C / 212°F.

Flash Point: Not Applicable.

Evaporation Rate: Same as Water.

Flammability (Solid, Gas): Not Applicable.

Upper/Lower Flammability or Explosive Limits: Not Applicable.

Vapor Pressure: Same as Water. Solubility (Water): Dispersible. Vapor Density: Same as Water.

Specific Density (Gravity): 1.059 @ 25° C.

Partition Coefficient- N-Octanol/Water: Not Applicable.

Auto-Ignition Temperature: Not Applicable. **Decomposition Temperature:** Not Available.

Viscosity: Not Determined.

Section 10. Stability and Reactivity

Chemical Stability: Stable.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Freezing conditions.

Incompatible Materials: None.

Hazardous Decomposition Products: Nitrogen oxides, CO, CO2 gases.

Section 11. Toxicological Information

Information on the Likely Routes of Exposure:

-Acute Inhalation Toxicity: Due to this material's liquid dispersion state, it is not expected to be a significant inhalation

hazard. Dried product may cause irritation to the respiratory tract.

-Acute Oral Toxicity: May be harmful if swallowed.

-Skin: Skin irritation. -Eye: Eye irritation.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Not available Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure:

Immediate Effects

-Acute Toxicity: Not available.
-Skin Corrosion/Irritation: Skin irritation.
-Serious Eye Damage/Irritation: Eye irritation.
-Respiratory Sensitization: Not available.
-Skin Sensitization: Not available.

-Carcinogenicity: 3-Amino-1,2,4 Triazole is listed as a suspect carcinogen by IARC, NTP, Z List or OSHA.

-Germ Cell Mutagenicity: Not available.

-Reproductive Toxicity: 3-Amino-1,2,4 Triazole is listed as a suspect reproductive hazard- endocrine disruptor.

-STOST (Single Exposure): Not available. -STOST (Repeated Exposure): Not available. -Aquatic Toxicity: Not available.

Chronic Effects

-Chronic Ingestion Effect:
-Chronic Eye Effect:
-Chronic Skin Effect:
-Chronic Inhalation Effect:
None expected.
None expected.
None known.

Numerical Measures of Toxicity: Not available.

Synergistic Materials: None expected.

Section 12. Ecological Information

Toxicity on Aquatic and Terrestrial Organisms: Not available.

Persistence and Degradability: The oxide component of this material will persist.

Bioaccumulation: This material is not expected to bio-accumulate.

Mobility in Soil: Oxide component not mobile in soil.

Other Adverse Effects: WGK Water Hazard Class - NWG

Section 13. Disposal Considerations

Disposal Methods:

-Dispose of in accordance with all applicable National, State and Local regulations. Same considerations should be given to the disposal of empty containers.

Precautions for Disposal: Not available

U.S.: As sold, not defined as hazardous waste under U.S. RCRA (Resource Conservation and Recovery Act) regulations.

Section 14. Transport Information

UN Number: Not applicable

UN Proper Shipping Name: Non-hazardous/Non-Regulated.

Transport Hazard Class: Not applicable.

Packing Group: Not applicable.

Marine Pollutant: Not applicable.

Information on Any Special Precautions: Not applicable.

Section 15. Regulatory Information

National Registries: All components are in compliance with the inventories below

-Australia: AICS Australian Inventory List

-Canada: CEPA, Canadian Environmental Protection Act, 6th Amendment, Domestic Substance List.

-China: Inventory of Existing Chemical Substances in China.

-Europe: EINECS, European Inventory of Existing Commercial Chemical Substances.

-United States: TSCA, Toxic Substance Control Act.

-Japan: METI, Ministry of Economy, Trade and Industry List of Existing and New Chemical Substances (ENCS).

-Korea: ECL, Existing Chemical List.

U.S. Regulations

-U.S. Clean Air Act, 1990: No components are listed as hazardous air pollutants. No components contain or are manufactured with Class I or Class II ozone depleting chemicals.

-U.S. Clean Water Act (40 CFR 116): No components are listed.

-U.S. SARA Title III:

- Section 302: Does not contain any constituents that are identified as extremely hazardous.
- Section 311/312: Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.
- Section 311/312 MSDS Requirements Not regulated.
- Section 313: Contains 3-Amino-1,2,4 Triazole under Section 313 as toxic chemicals in excess of the de minimis concentrations necessary to be subject to this rule.
- -CERCLA: Contains 3-Amino-1,2,4 Triazole. Reportable quantity is 10 lbs.
- -California Prop 65: This product contains a chemical known to the state of California to cause cancer: 3-Amino-1,2,4 Triazole (Amitrole).

European Regulations

-Product is not a dangerous substance regarding EU Directive 67/548/EEC and its various amendments and adaptations.

Classification: Skin Corrosion/Irritation Category 2; Eye Damage/Irritation Category 2B

Carcinogenicity Category 2
Toxic To Reproduction Category 2



Signal Word: Warning

Hazard Statement: -Causes skin irritation.

-Causes eye irritation.

-Suspected of damaging fertility or the unborn child.

Precautionary Statements: -Wear protective gloves/clothing and eye/face protection.

-Wash hands thoroughly after handling.

-If on skin: Wash with plenty of soap and water.

-Take off contaminated clothing and wash before re-use. -If skin irritation occurs, seek medical advice/attention.

-Seek emergency treatment in reference to supplemental first aid instructions.

-If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

-If eye irritation persists, get medical advice/attention.

-Obtain special instructions before use.

-Do not handle until all safety precautions have been read and understood.

-Use personal protective equipment as required.

-If exposed or concerned, get medical advice/attention.

-Store locked up.

-Dispose of contents/container in accordance with local/regional/national/international regulations.

-If eye irritation persists, get medical advice/attention.

Section 16. Other Information

Sources of Reference Materials:

-MSDS has been prepared in accordance with the following:

• Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

• American National Standards Institute (ANSI) Z400.1-2003.

EC Directive 91/155/EEC and 93/113/EEC.

Abbreviations:

-CAS: Chemical Abstract Service.

-CERCLA: Comprehensive Environmental Response, Compensation and Liability Act.

-HMIS: Hazardous Materials Identification System.

-NIOSH: National Institute of Occupational Safety & Health.

-PEL: Permissible Exposure Limit.-PPE: Personal Protective Equipment.

-SARA: Superfund Amendments and Reauthorization Act.

-TLV: Threshold Limit Value

-UN: United Nations.

Revision Indicator: Revised sections of the MSDS will be indicated by an asterisk (*) in front of the section affected.

-The information set forth is based on information which Cabot Microelectronics Corporation believes to be accurate.

-No warranty, express or implied, is intended. The information is provided solely for your information and consideration.

-Cabot Microelectronics Corporation assumes no legal responsibility for use or reliance thereon.

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