



MATERIAL SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

DESCRIPTION: Catalyst FM-510

1. Chemical Product and Company Identification

DESCRIPTION: **Catalyst FM-510**
PRODUCT CODE: 304370
PRODUCT TYPE: Dry Catalyst
APPLICATION: Resin Catalyst

Manufacturer/Supplier Information

MSDS prepared by:
Hexion Specialty Chemicals, Inc.
155 West A Street, Bldg. A-1
Springfield, OR
97477

For Emergency Medical Assistance
Call Health & Safety Information Services
1-866-303-6949

For additional health and safety or regulatory information, call (541)744-3256.

2. Hazards Identification

2.1 Emergency Overview

Appearance	Tan powder
Odor	Slight ammonia

WARNING!

Combustible dust when finely divided or suspended in air. Presents a fire or explosion hazard when dispersed and ignited in air.

May be harmful if inhaled. May cause irritation of nose, throat and lungs.

Causes eye irritation.

Causes skin irritation.

HMIS Rating

HEALTH	=	2 (moderate)
FLAMMABILITY	=	1 (slight)
REACTIVITY	=	0 (minimal)
CHRONIC	=	*

HMIS® ratings involve data interpretations that may vary from company to company. They are intended only for the rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

2.2 Potential Health Effects

Immediate Hazards

INGESTION:	Not expected to be harmful under normal conditions of use. If accidentally swallowed, burns or irritation to mucous membranes, esophagus or GI tract can result.
INHALATION:	May be harmful if inhaled. Dust or vapor may cause irritation of nose, throat and lungs.
SKIN:	Causes irritation.
EYES:	Causes irritation.

Delayed Hazards

1332-58-7 Kaolin

Chronic inhalation has resulted in benign pneumoconiosis. Pre-existing respiratory disorders may be aggravated by exposure.

-- See Footnote at end of section

14808-60-7 Quartz (SiO₂)

CANCER HAZARD. Can cause cancer. Use of this product may generate silica dust (which may be invisible). Inhaled silica has been listed by NTP and classified by IARC as a human carcinogen.

Footnote: As of the date of issuance of this document, this material has not been listed by NTP, classified by IARC nor regulated by OSHA as a carcinogen.

3. Composition, Information on Ingredients

The ingredients listed below have been associated with one or more immediate and/or delayed(*) health hazards. Risk of damage and effects depends upon duration and level of exposure. BEFORE USING, HANDLING, OR EXPOSURE TO THESE INGREDIENTS, READ AND UNDERSTAND THE MSDS.

		% by weight
12125-02-9	Ammonium Chloride	10.0 - 30.0
10043-01-3	Aluminum Sulfate	5.0 - 10.0
1332-58-7	*Kaolin	1.0 - 5.0
14808-60-7	*Quartz (SiO ₂)	0.1 - 1.0

Any applicable Canadian trade secret numbers will be listed in Section 15.2.

4. First Aid Measures

INGESTION:	If accidentally swallowed, dilute by drinking large quantities of water. If the individual is drowsy or unconscious, do not give anything by mouth. Immediately contact poison control center or hospital emergency room for advice on whether to induce vomiting or for any other additional treatment directions.
INHALATION:	If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Call a physician.
SKIN:	Flush with plenty of water. Remove contaminated clothing. Call a physician if irritation persists.
EYES:	Immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held apart during irrigation to ensure water contact with entire surface of eyes and lids. Call a physician.

5. Fire Fighting Measures

Suitable Extinguishing Media: In case of fire, use water spray, dry chemical, "alcohol" foam or CO₂. Use water to keep fire-exposed containers cool. Combustion products may include oxides of carbon and nitrogen.

Will burn.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Organic powders when finely divided (420 microns or smaller in diameter) and suspended in air may form explosive dust-air mixtures and result in a fire or dust explosion.

6. Accidental Release Measures

Minimize airborne dust and eliminate all ignition sources. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used. Prevent entry into natural bodies of water.

7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing. Wash thoroughly after handling. Always use appropriate Personal Protective Equipment (PPE).

INHALATION: Avoid breathing dust or vapor. Use with adequate ventilation.

SKIN: Avoid contact with skin and clothing.

EYES: Avoid contact with eyes.

COMBUSTIBLE DUST HANDLING PROCEDURES:

Combustible dusts at sufficient concentrations can form explosive mixtures with air. High dust concentrations should be avoided. Follow US NFPA Standard 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids," UK HSE Guidance HSG 103 or other national guidance on safe handling of combustible dusts. Train workers in the recognition and prevention of hazards associated with combustible dust in the plant.

Minimize airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Use continuous suction at points of dust generation to capture and minimize the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimize the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.

Control sources of static electricity. This product or the package itself can accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed in accordance with applicable NFPA standards (including 654 and 77) and other national guidance. Do not empty directly into flammable solvents or in the presence of flammable vapors. The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.

7.2 Storage

Store in a cool, dry place.

If exposure to moisture causes lumping, break lumps into powder before using.

Storage life at 70° F is one year, less at higher temperatures.

Keep away from heat, hot surfaces, sparks and flame.

8. Exposure Controls/Personal Protection**8.1 Exposure Guidelines**

12125-02-9 Ammonium Chloride			
ACGIH TLV	8-hr TWA	10 mg/m3	Fume
	STEL (15 min)	20 mg/m3	
OSHA PEL	None		Fume; 1989 PEL remanded, but in effect in some states
	Established		
	Remanded TWA	10 mg/m3	
	Remanded STEL	20 mg/m3	
10043-01-3 Aluminum Sulfate			
ACGIH TLV	8-hr TWA	2 mg/m3	Soluble salt, as Al
OSHA PEL	None		
	Established		
	Remanded TWA	2 mg/m3	Soluble salt, as Al; 1989 PEL remanded, but in effect in some states
1332-58-7 Kaolin			
ACGIH TLV	8-hr TWA	2 mg/m3	respirable fraction
OSHA PEL	8-hr TWA	5 mg/m3	respirable fraction
	8-hr TWA	15 mg/m3	total dust
	Remanded TWA	10 mg/m3	total dust; 1989 PEL remanded, but in effect in

14808-60-7		Quartz (SiO ₂)		some states
ACGIH TLV	8-hr TWA	0.025 mg/m ³	respirable fraction; A2 - Suspected Human Carcinogen	
OSHA PEL	8-hr TWA	10/(%SiO ₂ +2) mg/m ³	respirable dust	
	8-hr TWA	30/(%SiO ₂ +2) mg/m ³	total dust	
	Remanded TWA	0.1 mg/m ³	respirable dust; 1989 PEL remanded, but in effect in some states	
NIOSH	8-hr TWA	0.05 mg/m ³	Respirable; Refer to NIOSH publications including Criteria Document for Crystalline Silica	

8.2 Exposure Controls

ENGINEERING CONTROLS: The following exposure control techniques may be used to effectively minimize employee exposure: local exhaust ventilation, enclosed system design, process isolation and remote control in combination with appropriate use of personal protective equipment and prudent work practices. These techniques may not necessarily address all issues pertaining to your operations. We, therefore, recommend that you consult with experts of your choice to determine whether or not your programs are adequate.

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

8.3 Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH (42 CFR Part 84) approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Use goggles if contact is likely. Wear impervious gloves as required to prevent skin contact.

9. Physical and Chemical Properties

Appearance	Tan powder
Odor	Slight ammonia
Odor threshold	Not available
pH	Not applicable
Boiling point, 760 mm Hg	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	Not applicable
Vapor density	Not available
Specific gravity	0.4 - 0.7
Solubility in water	Not available
Octanol/water partition coefficient	Not available

Autoignition temperature

Not available

10. Stability and Reactivity

Chemical Stability

Normally stable as defined in NFPA 704-12(4-3.1).

Incompatible Materials

Oxidizers such as potassium chlorate and potassium nitrate.

Possibility of Hazardous Reactions

Hazardous polymerization is not expected to occur .

11. Toxicological Information

See Section 3 Hazards Identification information.

12125-02-9 Ammonium Chloride

LC50: Not available

LD50: Oral-rat= 1,650 mg/kg (Sax)

10043-01-3 Aluminum Sulfate

LC50: Not available

LD50: Oral-muskrat= 6,207 mg/kg (RTECS)

1332-58-7 Kaolin

LC50: Not available

LD50: Not available

14808-60-7 Quartz (SiO₂)

LC50: Not available

LD50: Not available

12. Ecological Information

Not determined

13. Disposal Considerations

Dispose of according to local, state/provincial, and federal requirements.

14. Transport Information

14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

Regulation: Non regulated

14.2 Canadian Transportation of Dangerous Goods (TDG)

Regulation: Non regulated

14.3 Other Regulations

- **ADR/RID**
Regulation: Non regulated
- **IMO/IMDG**
Regulation: Non regulated
- **IATA (Commercial)**
Regulation: Non regulated
- **IATA (Passenger)**
Regulation: Non regulated
- **ADNR**
Regulation: Non regulated

15. Regulatory Information (Selected Regulations)

15.1 U.S. Federal Regulations

OSHA Hazards Communication Standard 29CFR1910.1200

This material is a "health hazard" and/or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III: Section 311/312

Immediate health hazard
Delayed health hazard

SARA Title III: Section 313 and 40 CFR Part 372

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

None required per SARA TITLE III SECTION 313.

TSCA Section 8(b) Inventory

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by us.

15.2 Canadian Regulations

Workplace Hazardous Materials Information System (WHMIS)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

Class D2A
Class D2B

Canadian Environmental Protection Act (CEPA)

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

National Pollutant Release Inventory (NPRI)

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.

None required.

16. Other Information

User's Responsibility

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

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