



# MATERIAL SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

DESCRIPTION: Catalyst H-5400

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## 1. Chemical Product and Company Identification

DESCRIPTION: **Catalyst H-5400**  
PRODUCT CODE: 304652  
PRODUCT TYPE: Liquid UF Catalyst  
APPLICATION: UF Catalyst

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### 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.

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## 2. Hazards Identification

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### 2.1 Emergency Overview

Appearance	Dark brown liquid
Odor	Little or none

#### CAUTION!

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

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### HMIS Rating

HEALTH	=	2 (moderate)
FLAMMABILITY	=	0 (minimal)
REACTIVITY	=	0 (minimal)

*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.*

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### 2.2 Potential Health Effects

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#### Immediate Hazards

INGESTION:	Not expected to be harmful under normal conditions of use.
INHALATION:	May be harmful if inhaled. Liquid or vapor may cause irritation of nose, throat and lungs.
SKIN:	May cause irritation on prolonged or repeated contact.
EYES:	Causes irritation.

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### Delayed Hazards

None of the components present in this product at concentrations equal to or greater than 0.1% have been listed by NTP, classified by IARC, nor regulated by OSHA as a carcinogen.

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## 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
<b>12125-02-9    Ammonium Chloride</b>	<b>1.0 - 5.0</b>

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

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## 4. First Aid Measures

<b>INGESTION:</b>	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.
<b>INHALATION:</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Call a physician.
<b>SKIN:</b>	In case of irritation, flush with water.
<b>EYES:</b>	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.

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## 5. Fire Fighting Measures

Suitable Extinguishing Media: In case of fire, soak (flood) with water.

Will not burn.

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## 6. Accidental Release Measures

Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. For large spills, use water spray to disperse vapors and flush spill area. Prevent runoff from entering waterways or sewers. Use appropriate Personal Protective Equipment (PPE).

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## 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 vapor. Use with adequate ventilation.

**SKIN:** Avoid prolonged or repeated contact with skin and clothing.

**EYES:** Avoid contact with eyes.

## 7.2 Storage

Store in cool, dry area away from sun and heat.  
Keep containers tightly closed.

## 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		
	Established		
	Remanded TWA	10 mg/m3	Fume; 1989 PEL remanded, but in effect in some states
	Remanded	20 mg/m3	
	STEL		

### 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.

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## 9. Physical and Chemical Properties

Appearance	Dark brown liquid
Odor	Little or none
Odor threshold	Not available
pH	3.0 - 3.5
Boiling point, 760 mm Hg	Approx. 102 °C (216 °F)
Flash point	Not applicable
Evaporation rate	Approx. 0.3 (Butyl Acetate = 1)
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	17.5 mm Hg @25 °C (77 °F)
Vapor density	Not applicable
Solubility in water	Dispersible
Autoignition temperature	Not applicable
Viscosity	5,000 - 8,500 cPs Brookfield

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## 10. Stability and Reactivity

### Chemical Stability

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

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### Incompatible Materials

Alkalies and their carbonates; lead and silver salts.

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### Hazardous Decomposition Products

Ammonia gas.

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### Possibility of Hazardous Reactions

Hazardous polymerization is not expected to occur .

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## 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)

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## 12. Ecological Information

Not determined

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### 13. Disposal Considerations

Recover free liquid. Absorb residue and 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.

Ammonia (total), includes anhydrous ammonia and 10% of ammonium ion in solution	-	4.97%
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### **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 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.

Ammonia (total), includes ammonia and ammonium ion in solution	12125-02-9	4.97%
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## **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.

## Disclaimer

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