

Material Safety Data Sheet

FOR INDUSTRIAL USE ONLY

Cascofet FM-7400

1. Product and company identification

Product name : Cascofet FM-7400
MSDS Number : 000000103304
Material uses : Resin Hardener
Product type : Slurry
Validation date : 12/02/2014
Print date : 01/21/2015

Manufacturer, Importer, Supplier Hexion Inc.
180 East Broad Street
Columbus, Ohio
43215 USA

Contact person 4information@momentive.com

Telephone For additional health and safety or regulatory information, call 1 888 443 9466.

Emergency telephone number

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

For Emergency Transportation Information
CHEMTREC US Domestic (800) 424-9300
CHEMTREC International (703) 527-3887
CANUTEC CA Domestic (613) 996-6666

Part of the CASCO® Brand of Adhesives and Resins from Momentive Specialty Chemicals

2. Hazards identification

-Emergency overview

Physical state : Slurry
Color : Tan.
Odor : characteristic.

Signal word : **WARNING!**
Hazard statements : HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. MAY CAUSE EYE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

- Precautionary measures** :
- Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes. Avoid prolonged contact with eyes, skin and clothing. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling.

Potential acute health effects

- Inhalation** : Toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Harmful if swallowed.
- Skin** : Harmful in contact with skin. May cause sensitization by skin contact.
- Eyes** : Slightly irritating to the eyes.

Potential chronic health effects

- Chronic effects** : Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Inhalation of silica dust may cause delayed lung injury or lung fibrosis (including silicosis and/or pneumoconiosis) and/or other diseases which may lead to permanent disability and/or death. Silicosis is a form of disabling pulmonary fibrosis which can be progressive. Prolonged exposure to respirable silica may cause diminished lung capacity with shortness of breath during physical exertion and may cause fatigue, breathlessness, wheezing, cough, and sputum production. Preexisting respiratory disorders may be aggravated by exposure. Smoking may aggravate the effects of exposure and may increase the risk of developing respiratory disease from exposure. Consult with your employer and your doctor for further information or if you believe you may be developing any breathing or lung problems. There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease. Silicosis is also reported to increase the risk of tuberculosis. Some studies show an increased incidence in chronic bronchitis and emphysema in workers exposed to respirable crystalline silica.

- Carcinogenicity** : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which causes damage to the following organs:
 lungs
 upper respiratory tract
 eyes
 stomach

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
 - Ingestion** : No specific data.
 - Skin** : Adverse symptoms may include the following:
irritation
redness
 - Eyes** : Adverse symptoms may include the following:
irritation
watering
redness
 - Medical conditions aggravated by over-exposure** : Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
- See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	% by weight
7a-Ethylidihydro-1H,3H,5H-oxazolo[3,4-c]oxazole	7747-35-5	>=10 - <30
Dimethylolurea	140-95-4	>=5 - <10
Walnut Shell Flour	-	>=5 - <10
Silicon dioxide (amorphous)	7631-86-9	>=1 - <5
2-(hydroxymethylamino)ethanol	34375-28-5	>=1 - <5
Titanium dioxide	13463-67-7	>=0.1 - <1
Quartz (SiO2)	14808-60-7	>=0.1 - <1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first aid personnel** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.
Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides
 halogenated compounds

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8 of SDS).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8 of SDS). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient	Exposure limits
Walnut Shell Flour	<p>ACGIH TLV Time Weighted Average (TWA) 3 mg/m3 (respirable , Particles (Insoluble or Poorly Soluble) Not Otherwise Specified)</p> <p>ACGIH TLV Time Weighted Average (TWA) 10 mg/m3 (inhalable , Particles (Insoluble or Poorly Soluble) Not Otherwise Specified)</p>
Silicon dioxide (amorphous)	<p>ACGIH TLV Time Weighted Average (TWA) 10 mg/m3</p> <p>OSHA - PEL Z3 Time Weighted Average (TWA) 80 mg/m3</p>
Titanium dioxide	<p>ACGIH TLV (1996-05-18) Time Weighted Average (TWA) 10 mg/m3</p> <p>OSHA PEL (1993-06-30) Time Weighted Average (TWA) 15 mg/m3 (total dust)</p>
Quartz (SiO2)	<p>ACGIH TLV (2005-12-09) Time Weighted Average (TWA) 0.025 mg/m3 (respirable fraction)</p>

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Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Review ASTM E 1132-99, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica," as well as other guidelines such as NIOSH publications.
- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties
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9.1 Information on basic physical and chemical properties

Appearance

Physical state : Slurry

Color	:	Tan.
Odor	:	characteristic.
Odor threshold	:	Not available
pH	:	8.2 - 9.6
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	94 °C
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Burning time	:	Not available
Burning rate	:	Not available
Upper/lower flammability or explosive limits	:	Lower: Not available Upper: Not available
Vapor pressure	:	Not available
Vapor density	:	Not available
Relative density	:	1.177 - 1.225
Solubility(ies)	:	Not available
Solubility in water	:	Not available
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
Viscosity	:	Dynamic: 600 - 2,100 cPs (Brookfield) Kinematic: Not available

9.2 Other information

No additional information.

10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
Chemical stability	:	The product is stable.
Conditions to avoid	:	No specific data.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
7a-Ethyldihydro-1H,3H,5H-oxazolo[3,4-c]oxazole				
	LD50 Oral	Rat - Female	3,216 - 4,197 mg/kg	-
	LD50 Oral	Rat - Male	4,503 - 6,673 mg/kg	-
	LC50 Inhalation	Rat	3.1 mg/l	4 h
	LD50 Dermal	Rat	> 2,000 mg/kg	-
Silicon dioxide (amorphous)				
	LD50 Oral	Rat	3,160 mg/kg	-
2-(hydroxymethylamino)ethanol				
	LD50 Oral	Rat	1,620 mg/kg	-
	LD50 Dermal	Rabbit	1,400 mg/kg	-
Titanium dioxide				

Conclusion/Summary : Not available

Chronic toxicity

Conclusion/Summary : Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Silicon dioxide (amorphous)	eyes - Mild irritant	Rabbit		24 hrs	-
Titanium dioxide	Skin - Mild irritant	Human		72 hrs	-

Conclusion/Summary

Skin : Not available
Eyes : Not available
Respiratory : Not available

Sensitization

Conclusion/Summary

Skin : Not available
Respiratory : Not available

Carcinogenicity

Conclusion/Summary : Not available

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Silicon dioxide (amorphous)		3				
Titanium dioxide	A4	2B		+		
Quartz (SiO2)	A2	1		+	Proven	

Mutagenicity

Conclusion/Summary : Not available

Teratogenicity

Conclusion/Summary : Not available

Reproductive toxicity

Conclusion/Summary : Not available

SECTION 12: Ecological information

12.1 Toxicity

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
7a-Ethyl-dihydro-1H,3H,5H-oxazolo[3,4-c]oxazole			
	Acute LC50 221 mg/l Fresh water	Fish - Rainbow trout,donaldson trout	96 h
	Acute LC50 130 mg/l Fresh water	Fish - Bluegill	96 h
	Acute EC50 42 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
Silicon dioxide (amorphous)			
	Acute EC50 55.5 mg/l Fresh water	Aquatic plants - Green algae	72 h
2-(hydroxymethylamino)ethanol			
	Acute LC50 60.3 mg/l Fresh water	Fish - Rainbow trout,donaldson trout	96 h
	Acute EC50 25.2 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
Titanium dioxide			
	Acute LC50 1,000 mg/l Fresh water	Fish - Fathead minnow	96 h
	Acute LC50 5.5 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
	Acute EC50 5.83 mg/l Fresh water	Aquatic plants - Green algae	72 h

Conclusion/Summary : Not available

12.2 Persistence and degradability

Conclusion/Summary : Not available

Partition coefficient: n-octanol/water : Not available

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-

products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

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.

International transport regulations

Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR		Non-regulated		
TDG		Non-regulated		
IMO/IMDG		Non-regulated		
IATA (Cargo)		Non-regulated		

*PG : Packing group

15. Regulatory information

United States

HCS Classification	:	Toxic material Irritating material Sensitizing material Carcinogen Target organ effects
U.S. Federal regulations	:	United States - TSCA 12(b) - Chemical export notification: None required. United States - TSCA 5(a)2 - Final significant new use rules: Not listed United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed United States - TSCA 5(e) - Substances consent order: Not listed SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Immediate (acute) health hazard, Delayed (chronic) health

hazard

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : None required.

CEPA Toxic substances : None required.

Canada inventory : All components are listed or exempted.

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

International regulations

International lists : **Australia inventory (AICS):** Not determined.
Japan inventory: Not determined.
China inventory (IECSC): Not determined.
Korea inventory: Not determined.
New Zealand Inventory (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
United States inventory (TSCA 8b): All components are listed or exempted.

16. Other information

Label requirements : HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. MAY CAUSE EYE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Hazardous Material Information System III (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Other special considerations : Part of the CASCO® Brand of Adhesives and Resins from Momentive Specialty Chemicals

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Prepared by : Product Safety Stewardship

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