X HEXION

SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

Cascoset(TM) FM-7400

Section 1. Product and company identification

GHS product identifier MSDS Number Product type Material uses		 Cascoset(TM) FM-7400 000000103304 Slurry Resin Hardener
Manufacturer/Supplier/Impor ter	:	Hexion Inc. 180 East Broad Street Columbus, Ohio 43215 USA
Contact person	:	4information@hexion.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 Hexion Inc.

Section 2. Hazards identification

Classification of the substar mixture	ice or :	SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 1A
GHS label elements		
Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H317 May cause an allergic skin reaction. H350 May cause cancer.
Precautionary statements		
General	:	Not applicable.
V · 0.0		6 · · · 06/01/2015

Prevention	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.
Response	:	IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Other hazards which do not result in classification	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	% by weight	CAS
		number
7a-Ethyldihydro-1H,3H,5H-oxazolo[3,4-c]oxazole	20 - 25	7747-35-5
Dimethylolurea	5 - 7	140-95-4
2-(hydroxymethylamino)ethanol	3 - 5	34375-28-5
4-Oxazolidinemethanol, 4-ethyl-	0.2 - 1	535978-60-
		0
Titanium dioxide	0.2 - 1	13463-67-7
Quartz (SiO2)	0.1 - 0.2	14808-60-7

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
Skin contact	:	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	:	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary

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.
Specific treatments	:	No specific treatment.
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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire. None known.
Specific hazards arising from the chemical Hazardous thermal decomposition products	:	In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide

		nitrogen oxides sulfur oxides halogenated compounds
Special protective actions for fire- fighters	:	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.
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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel For emergency responders	:	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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
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 and material for containment	and	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 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see section 8 of SDS). 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 handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
Advice on general occupational hygiene	:	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. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	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. Store locked up. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Titanium dioxide	ACGIH TLV (1996-05-18)
	Time Weighted Average (TWA) 10 mg/m3
	OSHA PEL (1993-06-30)
	Time Weighted Average (TWA) 15 mg/m3 Form: total dust NIOSH REL (1994-06-01)
Quartz (SiO2)	OSHA - PEL Z3 (1997-09-03) respirable
	Time Weighted Average (TWA) 10 mg/m3 Form: divided by
	%SiO2+2
	OSHA - PEL Z3 (1997-09-03) total dust
	Time Weighted Average (TWA) 30 mg/m3 Form: divided by
	%SiO2+2
	ACGIH TLV (2005-12-09)
	Time Weighted Average (TWA) 0.025 mg/m3 Form: respirable
	fraction
	NIOSH REL (1994-06-01)
	Time Weighted Average (TWA) 0.05 mg/m3 Form: respirable dust
	OSHA - PEL Z3 (1997-09-03)
	Time Weighted Average (TWA) Form: respirable
	Time Weighted Average (TWA) 10 mg/m3 Form: respirable
	Time Weighted Average (TWA) 30 mg/m3 Form: total dust

Recommended monitoring procedures	:	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
Appropriate engineering controls	:	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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.
Individual protection measures		
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.
Eye/face protection	:	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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection		
Hand protection	:	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.
Body protection	:	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.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	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.

Section 9. Physical and chemical properties

Appearance

Physical state Color	:	Slurry Tan.
Odor	:	characteristic.
Odor threshold	:	Not available
рН	:	8.2 - 9.6
Melting point/ Freezing point	:	Not available
Boiling point	:	Not available
Flash point	:	94 °C (201.20 °F)
Burning time		Not available
Burning rate	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Lower and upper explosive		Lower: Not available
(flammable) limits	•	Upper: Not available
Vapor pressure	:	Not available
Vapor density	:	Not available
Relative density	:	1.177 - 1.225
Solubility	:	Not available
Solubility in water	:	Not available
Partition coefficient: n- octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
SADT	-	Not available
Viscosity	:	Dynamic: 600 - 2,100 cPs (Brookfield)
		Kinematic: Not available

Other information

The SDS is not to be used as a specification sheet. For Specific technical information on the product listed above, a sales specification sheet should be obtained from your Hexion representative.

Section 10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Strong oxidizer,
Incompatible materials	:	Reactive or incompatible with the following materials: oxidizing materials acids
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

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	-		
2-(hydroxymethylamino)etha	nol					
	LD50 Oral	Rat	1,620 mg/kg	-		
	LD50 Dermal	Rabbit	1,400 mg/kg	-		
Titanium dioxide	•			•		

Conclusion/Summary : Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Titanium dioxide	Skin - Mild irritant	Human		72 hrs	-
Conclusion/Summary					
Skin	: Not av	vailable			
eyes	: Not av	vailable			
Respiratory	: Not av	vailable			
<u>Sensitization</u>					
Conclusion/Summary					
Skin	: Not a	vailable			
Respiratory	: Not a	vailable			

Conclusion/Summary	:	Not available
Carcinogenicity		
Conclusion/Summary	:	Not available
<u>Reproductive toxicity</u>		
Conclusion/Summary	:	Not available
<u>Teratogenicity</u>		

Conclusion/Summary : Not available

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Dimethylolurea	Category 3		Respiratory tract irritation
2-(hydroxymethylamino)ethanol	Category 3		Respiratory tract irritation
4-Oxazolidinemethanol, 4-ethyl-	Category 3		Respiratory tract irritation
Titanium dioxide	Category 3		Respiratory tract irritation
Quartz (SiO2)	Category 3 Category 1 Category 2		Respiratory tract irritation respiratory tract eyes skin

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
4-Oxazolidinemethanol, 4-ethyl-	Category 2		stomach
Titanium dioxide	Category 1		lungs
Quartz (SiO2)	Category 1		immune system respiratory tract kidneys

Aspiration hazard

Not available

Information on the likely routes of	:	Not available
exposure		

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	Exposure to decomposition products may cause a health hazard.
	Serious effects may be delayed following exposure.
Skin contact	May cause an allergic skin reaction.
Ingestion	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	No specific data.
Inhalation	:	No specific data.
Skin contact	:	Adverse symptoms may include the following: irritation
		redness
Ingestion	:	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects Potential delayed effects	:	Not available Not available
Long term exposure		
Potential immediate effects Potential delayed effects	:	Not available Not available
Potential chronic health effects		
Conclusion/Summary	:	Not available
General	:	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	:	May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity Teratogenicity Developmental effects Fertility effects	::	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	29,518.9 mg/kg
Route	ATE value
Dermal	38,733.9 mg/kg
Route	ATE value
Inhalation (dusts and mists)	14.44 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Species	Exposure	
7a-ethyldihydro-1H,3H,5H-oxaz	olo[3,4-c]oxazole		
	Acute LC50 221 mg/l Fresh water	Fish - Rainbow	96 h
		trout,donaldson trout	

	Acute LC50 130 mg/l Fresh water	Fish - Bluegill	96 h
	Acute EC50 42 mg/l Fresh water	Aquatic invertebrates.	48 h
		Water flea	
2-(hydroxymethylamino)ethan	ol		
	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
Persistence/degradability		
Conclusion/Summary	:	Not available

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Titanium dioxide		352.00	low

Mobility in soil

Soil/water partition coefficient	:	Not available
(KOC)		
Other adverse effects	:	No known significant effects or critical hazards.

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever **Disposal methods** : possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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.

Section 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 tra	<u>nsport regul</u>	<u>ations</u>				
Regulatory information	UN/NA number	Proper shi	pping name	Classes/*PG	Reportable Quantity (RQ)	
CFR		Non-regula	ited			
TDG		Non-regula	ited			
IMO/IMDG		Non-regula	Non-regulated			
IATA (Cargo)		Non-regula	ited			
*PG : Packing gro	oup					
Special precaution	ons for user	:	containers that are	ser's premises: always upright and secure. Er oduct know what to do	-	

Section 15. Regulatory information

United States

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

<u>California Prop. 65:</u>	:	WARNING: This product contains a chemical known to the State of
		California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Titanium oxide (TiO2)	Yes.	No.	No.	No.
Quartz	Yes.	No.	No.	No.

United States inventory (TSCA 8b)	:	All components are listed or exempted.
<u>Canada</u>		

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.

International regulations

International lists	: Australia inventory (AICS): Not determined.
	Canada inventory: All components are listed or exempted.
	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.
	Taiwan inventory (CSNN): Not determined.

Section 16. Other information

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.

Full text of abbreviated H statements	:	Not applicable.
History		
Date of printing Date of issue/Date of revision Date of previous issue Version Prepared by Key to abbreviations		09/09/2015 06/01/2015 11/20/2010 9.0 Product Safety Stewardship ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail UN = United Nations Not available
Kelerences	:	NOT AVAILABLE

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