

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING
OF PRODUCT

MSDS CODE AND NAME : **CASTMATE CASTMATE® CERAMIC PROCESSING ADDITIVE**
DATE ISSUED : **11/30/2005**
DATE PRINTED : **11/30/2005**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY**MSDS CODE AND NAME****CASTMATE CASTMATE® CERAMIC PROCESSING ADDITIVE****Chemical Name and/or Family or Description:**

Polyalkylenepolyamine mixture

COMPANY INFORMATIONHuntsman Ethyleneamines LTD.
P.O. Box 4980
The Woodlands, TX 77387-4980**TELEPHONE NUMBERS**

Transportation Emergency

Company: (800) 328-8501

CHEMTREC: (800) 424-9300

Medical Emergency: (409) 722-9673 (24 Hour)

General MSDS Assistance: (281) 719-6432

Technical Information: (512) 459-6543

2. COMPOSITION AND INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION ARE AS FOLLOWS: CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION.

Product and/or Component(s) Carcinogenic According to:

OSHA IARC NTP OTHER NONE X

Composition:

Chemical Name	CAS Number	Exposure Limits	Range in %
Tetraethylenepentamine	112-57-2		10.00-34.99
Non-hazardous ingredients			65.00-94.99

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3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:

Milky liquid

Odor:

Slight hydrocarbon odor

WARNING STATEMENT

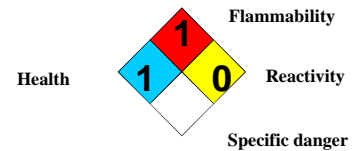
CAUTION !

MAY CAUSE EYE AND SKIN IRRITATION
MAY CAUSE ALLERGIC SKIN AND RESPIRATORY (ASTHMA-LIKE)
REACTION

**Hazardous Material
Information System
(United States)**

Health	1
Fire	1
Reactivity	0
Personal protection	

**National Fire Protection
Association NFPA
(United States)**



POTENTIAL HEALTH EFFECTS

Primary Route of Exposure

Eye X Skin X Inhalation X Ingestion

Effects of Overexposure

Acute:

Eyes:

May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Skin:

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.

Inhalation:

Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.

Ingestion:

May cause abdominal discomfort, nausea, and diarrhea.

Sensitization Properties:

This product or a component of this product is a potential skin and respiratory sensitizer. Therefore, inhalation of this product may cause an allergic or asthma-like reaction, experienced as wheezing, coughing, increased mucous production, tightness in the chest, or difficulty breathing, in sensitive, exposed persons. Prolonged and repeated contact with this product may cause an allergic skin reaction in sensitive, exposed persons.

Chronic:

No adverse effects have been documented in humans as a result of chronic exposure. Section 11 may contain applicable animal data.

Medical Conditions Aggravated by Exposure:

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

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Other Remarks:

None

4. FIRST AID MEASURES

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get medical attention.

Skin:

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

Ingestion:

If person is conscious and can swallow, give two glasses of water (16 oz.), but do not induce vomiting. If vomiting occurs, give fluids again. Have medical personnel determine if evacuation of stomach or induction of vomiting is necessary. Do not give anything by mouth to an unconscious or convulsing person.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Other Instructions:

None

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees C):

Not determined.

Flash Point (degrees C):

No flash observed to sample boiling. (PMCC)

Flammable Limits % (Lower-Upper):

Lower: Not determined.

Upper: Not determined.

Recommended Fire Extinguishing Agents And Special Procedures:

Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unusual or Explosive Hazards:

None

Special Protective Equipment for Firefighters:

Wear full protective clothing and positive pressure breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

Procedures in Case of Accidental Release, Breakage or Leakage:

Ventilate area. Avoid breathing vapor. Pressure demand air supplied respirators should always be worn when the airborne concentration of the contaminant or oxygen is unknown. Otherwise, wear respiratory protection and other personal protective equipment as appropriate for the potential exposure hazard. Contain spill if possible. Shovel up material and place in air-tight container. Avoid contact with skin, eyes, or clothing.

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7. HANDLING AND STORAGE

Precautions to be Taken in

Handling:

Minimum feasible handling temperatures should be maintained.

Storage:

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided. Store above 35°F (2°C). Do not store in copper and copper alloys.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

Skin Protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:

Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use NIOSH approved respirator as appropriate.

Exposure Limit for the Total Product:

None established for product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Milky liquid

Odor:

Slight hydrocarbon odor

Boiling Point (degrees C):

102 (216°F)

Melting/Freezing Point (degrees C):

2 (35°F)

Specific Gravity (water=1):

1.0354 at 25/25°C

pH:

Not determined.

Vapor Pressure:

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14.4 mmHg at 20°C (68°F)

Viscosity:

<20 cSt at 40°C (104°F)

VOC Content:

Not determined.

Vapor Density (Air=1):

Not determined.

Solubility in Water (%):

>10

Other:

Pour point: 35°F

10. STABILITY AND REACTIVITY

This Material Reacts Violently With:

Air **Water** **Heat** **Strong Oxidizers** X **Others** X **None of these**

Comments:

This material is incompatible with acids, strong oxidizing agents and halogenated hydrocarbons.

Products Evolved When Subjected to Heat or Combustion:

Toxic levels of carbon monoxide, carbon dioxide, combustion products of nitrogen, irritating aldehydes and ketones may be formed on burning in a limited air supply.

Hazardous Polymerizations:

DO NOT OCCUR

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Oral:

LD50 Believed to be > 2.00 - 5.00 g/kg (rat) slightly toxic

Inhalation:

Not determined.

Dermal:

LD50 Believed to be > 2.00 g/kg (rabbit) practically non-toxic

IRRITATION INDEX, ESTIMATION OF IRRITATION (SPECIES)

Skin:

(Draize) Believed to be > .50 - 3.00 /8.0 (rabbit) slightly irritating

Eyes:

(Draize) Believed to be 15.00 - 25.00 /110 (rabbit) slightly irritating

Sensitization:

Not determined.

Other:

This product, or a component of this product, has exhibited evidence for mutagenic activity in standard in-vitro (test tube) tests.

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12. DISPOSAL CONSIDERATIONS:

Waste Disposal Methods:

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks:

Do not allow to enter drains or sewers. Do not allow to drain into surface waters.

13. TRANSPORT INFORMATION

Transportation

DOT:

Proper Shipping Name:

Not regulated.

Hazard Class:

Not regulated.

Identification Number:

Not regulated.

Packing Group:

Not regulated.

Label Required:

Not regulated.

IMDG

Proper Shipping Name:

Not regulated.

ICAO

Proper Shipping Name:

Not regulated.

TDG

Proper Shipping Name:

Not regulated.

Hazard Class:

Not regulated.

Identification Number:

Not regulated.

Label Required:

Not regulated.

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14. REGULATORY INFORMATION

Federal Regulations:

SARA Title III:

Section 302/304 Extremely Hazardous Substances

Chemical Name	CAS Number	Range in %	TPQ	RQ
None.				

Section 311 Hazardous Categorization:

Acute X Chronic X Fire Pressure Reactive N/A

Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
None.		

CERCLA 102(a)/DOT Hazardous Substances:

Chemical Name	CAS Number	Range in %	RQ
None.			

States Right-to-Know Regulations:

Chemical Name	State Right-to-know
Tetraethylenepentamine	FL, MA, NJ, PA

California Prop. 65:

The following detectable components of this product are substances, or belong to classes of substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
None.	

INTERNATIONAL REGULATIONS:

TSCA Inventory Status:

This product, or its components, are listed on, or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

WHMIS Classification:

Class D, Div 2, Subdiv B: Irritant
Class D, Div 2, Subdiv A: Respiratory sensitizer

Canadian Inventory Status:

This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status:

This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substances (EINECS) or the European List of Notified Chemical Substances (ELINCS).

Australian Inventory Status:

This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substances (AICS).

Japan Inventory Status:

This product, or its components, are listed on or are exempt from the Japanese Ministry of Economy Trade and Industry (METI) inventory.

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15. ENVIRONMENTAL INFORMATION

Aquatic Toxicity:

Not determined.

Mobility:

Not determined.

Persistence and Biodegradability:

Not determined.

Potential to Bioaccumulate:

Not determined.

Remarks:

None

16. OTHER INFORMATION 11/30/2005

None

Supersedes: 7/1/2004

The following section has been revised: 14

Date Issued: 11/30/2005.

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**HUNTSMAN
MANAGER, PRODUCT SAFETY
P.O. BOX 4980
THE WOODLANDS, TX 77387-4980**

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