

# Material Safety Data Sheet

## Section 1. Product Identification and Use

**Product Name - Trade Name**      **999-066 CATALYST**

**Supplier - Manufacturer**      **Chemcraft International Inc.,**  
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**In case of Emergency**      (905) 885-6388, (800) 263-7951

### For Transport Emergency or After Hours

CANUTEC (613) 996-6666

**Code**      999-066

### **Synonym**

**Chemical Name**      Not applicable.

**Chemical Family**      Synthetic polymer in organic solvent. (Polymer.)

**Chemical Formula**      Not applicable.

**Material Uses**      Coatings: Surface coatings and finishes.

**Product Identification Number (PIN)**      1263 PAINT

## Section 2. Hazardous Ingredients

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### Exposure limits

Name	CAS #	% by Weight	LC <sub>50</sub> /LD <sub>50</sub>	TLV/PEL
Hexamethylene diisocyanate homopolymer	28182-81-2	10-30	ORAL (LD50): Acute: >10000 mg/kg [Rat]. DERMAL (LD50): Acute: >5000 mg/kg [Rabbit].	Not available.
Ethylbenzene	100-41-4	0.1-1	ORAL (LD50): Acute: 3500 mg/kg [Rat]. DERMAL (LD50): Acute: 5000 mg/kg [Rabbit].	<b>ACGIH (Canada).</b> TWA: 100 ppm STEL: 125 ppm
m-Methyltoluene	108-38-3	1-5	ORAL (LD50): Acute: 6750 mg/kg [Rat]. DERMAL (LD50): Acute: 12400 mg/kg [Rabbit].	Not available.
p-Methyltoluene	106-42-3	0.1-1	ORAL (LD50): Acute: 4100 mg/kg [Rat].	Not available.
Hexamethylene diisocyanate	822-06-0	0.1-1	ORAL (LD50): Acute: 350 mg/kg [Mouse]. 768 mg/kg [Rat]. DERMAL (LD50): Acute: 617 mg/kg [Rabbit].	<b>ACGIH (Canada).</b> TWA: 0.005 ppm
n-Butyl acetate	123-86-4	1-5	ORAL (LD50): Acute: 14130 mg/kg [Rat]. 7100 mg/kg [Mouse]. DERMAL (LD50): Acute: 5000 mg/kg [Rabbit]. 8770 mg/kg [Guinea pig].	<b>OSHA (Canada).</b> TWA: 150 ppm STEL: 200 ppm <b>ACGIH (Canada, 2000).</b> TWA: 150 ppm STEL: 200 ppm
Ethyl Acetate	141-78-6	30-60	ORAL (LD50): Acute: 5600 mg/kg [Rat].	<b>ACGIH (Canada).</b> TWA: 400 ppm
Monochlorobenzene	108-90-7	1-5	ORAL (LD50): Acute: 2910 mg/kg [Rat].	Not available.
Tris(4-Isocyanatophenyl) Thiophosphate	4151-51-3	10-30	Not available.	Not available.

Continued on Next Page

Trace impurities and additional material names not listed above may appear in other sections of this MSDS. These materials may be listed for toxicological concerns, local compliance, or other reasons.

### Section 3. Physical Data

<b>Physical State and Appearance</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Taste</b>	Not available.
<b>Molecular Weight</b>	Not applicable.
<b>pH (1% soln/water)</b>	Not applicable.
<b>Boiling Point</b>	The lowest known value is 77°C (170.6°F) (Acetic Acid, Ethyl Ester). Weighted average: 122.77°C (253°F)
<b>Melting Point</b>	May start to solidify at -45.6°C (-50.1°F) based on data for: Benzene, chloro-. Weighted average: -81.62°C (-114.9°F)
<b>Critical Temperature</b>	Not available.
<b>Specific Gravity</b>	Weighted average: 0.97 (Water = 1)
<b>Vapor Pressure</b>	The highest known value is 9.7 kPa (73 mm Hg) (at 20°C) (Acetic Acid, Ethyl Ester). Weighted average: 6.64 kPa (49.8 mm Hg) (at 20°C)
<b>Vapor Density</b>	The highest known value is 4 (Air = 1) (Acetic Acid, Butyl Ester). Weighted average: 3.13 (Air = 1)
<b>Volatility</b>	Not available.
<b>Odor Threshold</b>	The lowest known value is 0.04 ppm (Acetic Acid, Butyl Ester) Weighted average: 0.21 ppm
<b>Water/Oil Dist. Coeff.</b>	The product is more soluble in octanol.
<b>Ionicity (in Water)</b>	Not available.
<b>Dispersion Properties</b>	Partially dispersed in methanol, diethyl ether. Is not dispersed in cold water, hot water. See solubility in methanol, diethyl ether, n-octanol.
<b>Solubility</b>	Soluble in methanol, diethyl ether. Partially soluble in n-octanol. Insoluble in cold water, hot water.

### Section 4. Fire and Explosion Hazard

<b>The Product is:</b>	Flammable.
<b>Fire Hazards in Presence of Various Substances</b>	Flammable in presence of open flames, sparks and static discharge, of heat.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
<b>Special Remarks on Fire Hazards</b>	Vapor may travel considerable distance to source of ignition and flash back. (Acetic Acid, Butyl Ester)
<b>Flash Points</b>	The lowest known value is Closed cup: -1°C (30.2°F). (Tagliabue). Open cup: -0.5°C (31.1°F). (Tagliabue). (Acetic Acid, Ethyl Ester)
<b>Flammable Limits</b>	The greatest known range is Lower: 2.2% Upper: 11% (Acetic Acid, Ethyl Ester)
<b>Auto-Ignition Temperature</b>	The lowest known value is 407°C (764.6°F) (Acetic Acid, Butyl Ester).
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ...), hydrogen cyanide (HCN).
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames, sparks and static discharge.
<b>Special Remarks on Explosion Hazards</b>	Not available.

Continued on Next Page

## Section 5. Reactivity Data

<b>Stability</b>	The product is stable.
<b>Decomposition products</b>	These products are halogenated compounds, hydrogen chloride.
<b>Conditions of Instability</b>	High heat and moisture. (Hexane, 1,6-diisocyanato-)
<b>Incompatibility with various substances</b>	Reactive with moisture. Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.
<b>Corrosivity</b>	Not available.
<b>Special Remarks on Reactivity</b>	Not available.
<b>Special Remarks on Corrosivity</b>	Not available.

## Section 6. Toxicological Properties

<b>Routes of Entry</b>	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 2910 mg/kg [Rat]. (Benzene, chloro-). Acute dermal toxicity (LD50): 5000 mg/kg [Rabbit]. (Acetic Acid, Butyl Ester). Acute toxicity of the gas (LC50): 18500 mg/m <sup>3</sup> 1 hour(s) [Rat]. (Hexane, 1,6-diisocyanato-, homopolymer). Acute toxicity of the vapor (LC50): >1800 ppm 4 hour(s) [Rat]. (Acetic Acid, Butyl Ester).
<b>Effects of Acute Exposure</b>	<b>SENSITIZER:SKIN AND RESPIRATORY.</b> Very dangerous in case of skin contact (irritant), of eye contact (irritant). Slightly dangerous to dangerous in case of ingestion, of inhalation. Very slightly to slightly dangerous in case of skin contact (sensitizer, permeator). This product may irritate eyes and skin upon contact. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> Classified A4 (Not classifiable for human or animal.) by ACGIH [Benzene, 1,3-dimethyl-]. Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Hexane, 1,6-diisocyanato-]. Classified None. by OSHA [Hexane, 1,6-diisocyanato-]. Classified A5 (Not suspected for human.) by ACGIH, 4 (Probably not for human.) by IARC [Acetic Acid, Ethyl Ester]. <b>MUTAGENIC EFFECTS:</b> Not available. <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITY:</b> Not available. The substance is toxic to blood, kidneys, lungs, the nervous system, liver. Repeated or prolonged exposure to the substance can produce target organs damage.
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	0347 Animal: embryotoxic, foetotoxic, passes through the placental barrier. 0900 Detected in maternal milk in human. Narcotic effect; may cause nervous system disturbances. (Benzene, 1,3-dimethyl-)
<b>Special Remarks on Other Toxic Effects on Humans</b>	As a result of previous repeated overexposure or a single large dose, certain individuals develop sensitization which will cause them to react to a later exposure to product at levels well below the TLV. Symptoms including chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed. (Hexane, 1,6-diisocyanato-, homopolymer)
<b>Exposure Limits</b>	Not available.

## Section 7. Preventive Measures

<b>Personal Protection</b>	Splash goggles. Overalls. Respiratory protection as specified in the Respirator Code, is required. Fresh air respirators such as NIOSH Type Cor equivalent, or self-contained breathing apparatus may be required. Chemical resistant gloves (Nitrile rubber, Butyl rubber). Wear appropriate respirator when ventilation is inadequate.
<b>Personal Protection in Case of a Large Spill</b>	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

<b>Engineering Controls</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
<b>Small Spill</b>	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Transport to a well ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10[such as from Union Carbide](20%).
<b>Large Spill</b>	Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.
<b>Waste Disposal</b>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
<b>Precautions</b>	Keep locked up. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as moisture.
<b>Storage</b>	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
<b>TDG Classification</b>	3
<b>PIN</b>	1263 PAINT <b>PG: II</b>
<b>Special Provisions for Transport</b>	109 The consignor must determine legal limit. (Benzene, dimethyl-)
<b>Federal and State Regulations</b>	<b>WARNING:</b> This product contains chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm: Benzene, dimethyl- Illinois toxic substances disclosure to employee act: Benzene, ethyl- New York release reporting list: Benzene, 1,3-dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester New York extremely hazardous substances: Benzene, ethyl- Rhode Island RTK hazardous substances: Benzene, ethyl-; Acetic Acid, Ethyl Ester Pennsylvania RTK: Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester Florida: Benzene, ethyl-; Benzene, 1,3-dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester Minnesota: Benzene, ethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester Massachusetts RTK: Benzene, ethyl-; Benzene, 1,3-dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester New Jersey: Benzene, ethyl-; Hexane, 1,6-diisocyanato-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester TSCA 8(b) inventory: Benzene, dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester TSCA 5(e) substance consent order: Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester TSCA 8(d) H and S data reporting: Benzene, ethyl- TSCA 12(b) annual export notification: Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Benzene, dimethyl-: Fire hazard, Immediate (Acute) Health Hazard; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester: Fire hazard, Immediate (Acute) Health Hazard SARA 313 toxic chemical notification and release reporting: Benzene, dimethyl- 3.8625%; Benzene, chloro- 1.0238% CERCLA: Hazardous substances.: Benzene, dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester;
<b>Other Regulations</b>	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
<b>Other Classifications</b>	<b>WHMS (Canada)</b> <b>Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).</b> <b>Class D-1B: Material causing immediate and serious toxic effects (TOXIC).</b> <b>Class D-2A: Material causing other toxic effects (VERY TOXIC).</b> <b>Class D-2B: Material causing other toxic effects (TOXIC).</b>
	<b>HCS (U.S.A.)</b> Highly toxic material Flammable liquid Irritating material Class: Target organ effects.

<b>Hazardous Material Information System (U.S.A.)</b>	<b>Health Hazard</b>	* 2
	<b>Fire Hazard</b>	3
	<b>Reactivity</b>	2
	<b>Personal Protection</b>	H
<b>National Fire Protection Association (U.S.A.)</b>	<b>Health</b>	2
	<b>Fire Hazard</b>	3
	<b>Reactivity</b>	2
	<b>Specific Hazard</b>	

## Section 8. First Aid Measures

<b>Eye Contact</b>	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
<b>Hazardous Skin Contact</b>	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Hazardous Inhalation</b>	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. <b>WARNING:</b> It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.
<b>Ingestion</b>	Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
<b>Hazardous Ingestion</b>	Not available.

## Section 9. Preparation Information

<b>References</b>	-Manufacturers Material Safety Data Sheets.
<b>Other Special Considerations</b>	<p>- Please note that this material contains isocyanates as a component of the formulation. Isocyanates have been prescribed as a designated substance (R.R.O. 1990, Reg. 182, s. 2) by the Government of Ontario under the Occupational Health and Safety Act (the Act). This Occupational Health and Safety Division of the Ministry of Labour is responsible for administering the Act. The Act places duties on employers to take all precautions reasonable in the circumstances to protect the health of workers. Employers are also required to comply with regulations and to provide information, instruction and supervision to workers.</p> <p>- A "designated substance" is defined by the Act to mean a biological, chemical or physical agent or combination thereof prescribed as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled. As such, there are regulations associated with the production, use handling and storage of isocyanates such as exposure limits, assessment and control programs and medical surveillance. Information regarding the type of isocyanate supplied by Chemcraft Inc. and used at your facility may be obtained from the individual MSDS's of the materials purchased.</p> <p>- There are several informative books and guides to the Act and the Regulation respecting Isocyanates published by the Ontario Government such as:</p> <ul style="list-style-type: none"> <li>· Occupational Health and Safety Act</li> <li>· Occupational Health and Safety Act and Regulations for Industrial Establishments</li> <li>· Regulations respecting Isocyanates - made under the Occupational Health and Safety Act</li> <li>· Designated Substances in the Workplace: A Guide to the Isocyanates Regulation</li> </ul> <p>These books may be obtained through your local office of the Ministry of Labour.</p>

Continued on Next Page

- Please be aware that the regulations may require you to control exposure limits by the use of personal protective equipment. In this case, the regulations clearly state that the use of charcoal filter respirators are not an effective control for isocyanates. When respiratory protection is required fresh air respirators or self-contained breathing apparatus, as specified in the Respirator Code, must be used.

- If you have further questions regarding these products or the regulations, or require more detailed information, you may contact us or your local branch of the Ministry of Labour. Ontario designated substances list: This product is on the Ontario designated substances list.

**Related Information**

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

**Preparation Information Validated by \*\*\* on \*\*\*.**

**Verified by C.M. Kelly.**

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**Information Contact**

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