

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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Code 999-066

Synonym CATALYST

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

Name	CAS #	% by Weight	Exposure Limits	
			LC ₅₀ /LD ₅₀	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].	ACGIH (Canada). 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].	ACGIH (Canada). 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].	OSHA (Canada). TWA: 150 ppm STEL: 200 ppm ACGIH (Canada, 2000). TWA: 150 ppm STEL: 200 ppm
Ethyl Acetate	141-78-6	30-60	ORAL (LD50): Acute: 5600 mg/kg [Rat].	ACGIH (Canada). 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.

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.

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Section 3. Physical Data

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

Section 4. Fire and Explosion Hazard

The Product is:	Flammable.
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames, sparks and static discharge, of heat.
Fire Fighting Media and Instructions	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.
Special Remarks on Fire Hazards	Vapor may travel considerable distance to source of ignition and flash back. (Acetic Acid, Butyl Ester)
Flash Points	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)
Flammable Limits	The greatest known range is LOWER: 2.2% UPPER: 11% (Acetic Acid, Ethyl Ester)
Auto-Ignition Temperature	The lowest known value is 407°C (764.6°F) (Acetic Acid, Butyl Ester).
Products of Combustion	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...), hydrogen cyanide (HCN).
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames, sparks and static discharge.
Special Remarks on Explosion Hazards	Not available.

Section 5. Reactivity Data

Stability	The product is stable.
Decomposition products	These products are halogenated compounds, hydrogen chloride.
Conditions of Instability	High heat and moisture. (Hexane, 1,6-diisocyanato-)
Incompatibility with various substances	Reactive with moisture. Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.

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Corrosivity	Not available.
Special Remarks on Reactivity	Not available.
Special Remarks on Corrosivity	Not available.

Section 6. Toxicological Properties

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	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 ³ 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).
Effects of Acute Exposure	SENSITIZER:SKIN AND RESPIRATORY. 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.
Chronic Effects on Humans	CARCINOGENIC EFFECTS: 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]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: 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.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	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-)
Special Remarks on Other Toxic Effects on Humans	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)
Exposure Limits	Not available.

Section 7. Preventive Measures

Personal Protection	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.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Chemical resistant gloves, such as Norfoil should be used when handling this product. Please consult a Glove Manufacturer for alternate choices. 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.
Engineering Controls	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.
Small Spill	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%).
Large Spill	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.
Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Precautions	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.

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Storage	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).	
TDG Classification	3	
PIN	1263 PAINT	PG: II
Special Provisions for Transport	109 The consignor must determine legal limit. (Benzene, dimethyl-)	
Federal and State Regulations	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Benzene, dimethyl-</p> <p>Illinois toxic substances disclosure to employee act: Benzene, ethyl-</p> <p>New York release reporting list: Benzene, 1,3-dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>New York acutely hazardous substances: Benzene, ethyl-</p> <p>Rhode Island RTK hazardous substances: Benzene, ethyl-; Acetic Acid, Ethyl Ester</p> <p>Pennsylvania RTK: Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>Florida: Benzene, ethyl-; Benzene, 1,3-dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>Minnesota: Benzene, ethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>Massachusetts RTK: Benzene, ethyl-; Benzene, 1,3-dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>New Jersey: Benzene, ethyl-; Hexane, 1,6-diisocyanato-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>TSCA 8(b) inventory: Benzene, dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>TSCA 5(e) substance consent order: Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>TSCA 8(d) H and S data reporting: Benzene, ethyl-</p> <p>TSCA 12(b) annual export notification: Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester</p> <p>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</p> <p>SARA 313 toxic chemical notification and release reporting: Benzene, dimethyl- 3.8625%; Benzene, chloro- 1.0238%</p> <p>CERCLA: Hazardous substances.: Benzene, dimethyl-; Acetic Acid, Butyl Ester; Acetic Acid, Ethyl Ester;</p>	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).	
Other Classifications	WHMIS (Canada)	<p>Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).</p> <p>Class D-1B: Material causing immediate and serious toxic effects (TOXIC).</p> <p>Class D-2A: Material causing other toxic effects (VERY TOXIC).</p> <p>Class D-2B: Material causing other toxic effects (TOXIC).</p>
	HCS (U.S.A.)	<p>Class: Highly toxic.</p> <p>Class: Flammable liquid having a flash point lower than 37.8°C (100°F).</p> <p>Class: Irritating substance.</p> <p>Class: Target organ effects.</p>
Hazardous Material Information System (U.S.A.)	Health Hazard	* 2
	Fire Hazard	3
	Reactivity	2
	Personal Protection	H
National Fire Protection Association (U.S.A.)	Health	2
	Fire Hazard	3
	Reactivity	2
	Specific Hazard	

Section 8. First Aid Measures

Eye Contact	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.
Skin Contact	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.
Hazardous Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Hazardous Inhalation	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. WARNING: 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.
Ingestion	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.
Hazardous Ingestion	Not available.

Section 9. Preparation Information

References	-Manufacturers Material Safety Data Sheets.
Other Special Considerations	<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"> · Occupational Health and Safety Act · Occupational Health and Safety Act and Regulations for Industrial Establishments · Regulations respecting Isocyanates - made under the Occupational Health and Safety Act · Designated Substances in the Workplace: A Guide to the Isocyanates Regulation <p>These books may be obtained through your local office of the Ministry of Labour.</p> <p>- 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.</p> <p>- 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: Please note that this product contains a substance which has been listed by the Ontario Government as a designated substance. Please consult the Occupational Health and Safety Act for employer responsibilities.</p>
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	<p>Validated by C.M. Kelly on 10/24/2003.</p> <p>Verified by C.M. Kelly.</p> <p>Printed 7/8/2004.</p>
Information Contact	Prepared by the Health, Safety and Environment Department, Chemcraft International Inc., P.O. Box 458, 155, Rose Glen Road North, Port Hope, ON. Canada. Phone: 905 885-6388 Fax: 905 885-5097

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