

# Material Safety Data Sheet

## Section 1. Product Identification and Use

Product Name - Trade Name **999-090 LUSTRATE HARDENER (999081)**

Supplier - Manufacturer **Chemcraft International Inc.,**

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### For Transport Emergency or After Hours

CANUTEC (613) 996-6666

Code 999-090

Synonym LUSTRATE HARDENER (999081)

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

### Exposure Limits

Name	CAS #	% by Weight	LC <sub>50</sub> /LD <sub>50</sub>	TLV/PEL
Isobutyl acetate	110-19-0	30-60	ORAL (LD50): Acute: 4763 mg/kg [Rabbit]. 3200 mg/kg [Rat].	TWA: 150 (ppb)
Polymeric isocyanate		10-30	Not available.	Not available.
Toluene diisocyanate	26471-62-5	0.1-1	Not available.	TWA: 0.005 STEL: 0.02 (ppm) from ACGIH (TLV) [United States]
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].	TWA: 0.005 (ppm) from ACGIH (TLV) [United States]
n-Butyl acetate	123-86-4	10-30	ORAL (LD50): Acute: 14130 mg/kg [Rat]. 7100 mg/kg [Mouse]. DERMAL (LD50): Acute: 5000 mg/kg [Rabbit].	TWA: 150 STEL: 200 (ppb) from ACGIH (TLV) [United States] [1994]
Ethyl Acetate	141-78-6	10-30	ORAL (LD50): Acute: 5600 mg/kg [Rat].	TWA: 400 (ppb) from ACGIH (TLV) [United States]

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

Physical State and Appearance Liquid.

Color Clear Colorless. Odor Aromatic. 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: 107.94°C (226.3°F)

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<b>Melting Point</b>	May start to solidify at -77.9°C (-108.2°F) based on data for: Acetic acid, butyl ester. Weighted average: -89.47°C (-129°F)
<b>Critical Temperature</b>	Not available.
<b>Specific Gravity</b>	Weighted average: 0.93 (Water = 1)
<b>Vapor Pressure</b>	The highest known value is 9.7 kPa (@ 20°C) (Acetic acid, ethyl ester). Weighted average: 3.84 kPa (@ 20°C)
<b>Vapor Density</b>	The highest known value is 4 (Air = 1) (Acetic acid, 2-methylpropyl ester). Weighted average: 3.73 (Air = 1)
<b>Volatility</b>	Not available.
<b>Odor Threshold</b>	The highest known value is 3.9 ppm (Acetic acid, ethyl ester) Weighted average: 1.43 ppm
<b>Water/Oil Dist. Coeff.</b>	The product is more soluble in oil.
<b>Ionicity (in Water)</b>	Not available.
<b>Dispersion Properties</b>	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>	Highly flammable in presence of open flames and sparks. Flammable in presence of heat.
<b>Fire Fighting Media and Instructions</b>	Flammable liquid, insoluble in water. 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. When heated to decomposition it emits acrid smoke and fumes. (Acetic acid, 2-methylpropyl ester)
<b>Flash Points</b>	The lowest known value is CLOSED CUP: -4.4°C (24.1°F). (Tagliabue.). OPEN CUP: -3°C (26.6°F). (Cleveland). (Acetic acid, ethyl ester)
<b>Flammable Limits</b>	The greatest known range is LOWER: 2.02% UPPER: 10.7% (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> ).
<b>Explosion Hazards in Presence of Various Substances</b>	Risks of explosion of the product in presence of mechanical impact: Not available. Highly explosive in presence of open flames and sparks.
<b>Special Remarks on Explosion Hazards</b>	Not available.

### Section 5. Reactivity Data

<b>Stability</b>	The product is stable.
<b>Decomposition products</b>	Not available.
<b>Conditions of Instability</b>	High heat and moisture. (Benzene, 1,3-diisocyanatomethyl-)
<b>Incompatibility with various substances</b>	Reactive with oxidizing agents, acids, alkalis, moisture. Slightly reactive to reactive with reducing agents, organic materials.
<b>Corrosivity</b>	Non-corrosive in presence of glass.
<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>	Eye contact. Inhalation. Ingestion.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 3200 mg/kg [Rat]. (Acetic acid, 2-methylpropyl ester). Acute dermal toxicity (LD50): 5000 mg/kg [Rabbit]. (Acetic acid, butyl ester).
<b>Effects of Acute Exposure</b>	<b>SENSITIZER: SKIN AND RESPIRATORY</b> Slightly dangerous to dangerous in case on skin contact, eye contact (irritant), of ingestion, of inhalation. Slightly dangerous to dangerous in case of skin contact (sensitizer). Respiratory sensitivity results in asthma-like symptoms on subsequent exposure even below TLV. Severe over-exposure can result in death. Can be fatal if inhaled or ingested. This product may irritate eyes and skin upon contact and can cause irritation to the nose throat and lungs.
<b>Chronic Effects on Humans</b>	<b>CARCINOGENIC EFFECTS:</b> Classified 2B (Possible for human.) by IARC [Benzene, 1,3-diisocyanatomethyl-]. Classified 2 (Some evidence.) by NTP [Benzene, 1,3-diisocyanatomethyl-]. Classified None. by OSHA [Benzene, 1,3-diisocyanatomethyl-]. 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, 4 (No evidence.) by NTP, None. by OSHA [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 lungs. 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>	Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function test (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted. (Polymeric Isocyanate)
<b>Special Remarks on Other Toxic Effects on Humans</b>	Material is irritating to mucous membranes and upper respiratory tract. (Acetic acid, 2-methylpropyl ester)
<b>Exposure Limits</b>	<b>Acetic acid, 2-methylpropyl ester</b> TWA: 150 (ppb) <b>Benzene, 1,3-diisocyanatomethyl-</b> TWA: 0.005 STEL: 0.02 (ppm) from ACGIH (TLV) [United States] <b>Hexane, 1,6-diisocyanato-</b> TWA: 0.005 (ppm) from ACGIH (TLV) [United States] <b>Acetic Acid, Butyl Ester</b> TWA: 150 STEL: 200 (ppb) from ACGIH (TLV) [United States] [1994] <b>Acetic Acid, Ethyl Ester</b> TWA: 400 (ppb) from ACGIH (TLV) [United States]
	Consult local authorities for acceptable exposure limits.

## Section 7. Preventive Measures

<b>Personal Protection</b>	Splash goggles. Overalls. A positive pressure, supplied-air respirator is recommended. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 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 threshold limit value. 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>	Poisonous flammable liquid, insoluble or very slightly soluble in water. 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. Eliminate all sources of ignition. Call for assistance on disposal.
<b>Waste Disposal</b>	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

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<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. Wear suitable protective clothing. 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 oxidizing agents, acids, alkalis, 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>	Class 3: Flammable liquid.	
<b>PIN</b>	1263 PAINT	<b>PG:</b> PG:II
<b>Special Provisions for Transport</b>	Not available.	
<b>Federal and State Regulations</b>	Pennsylvania RTK: Isobutyl Acetate Massachusetts RTK: Isobutyl Acetate New Jersey: Isobutyl Acetate TSCA 8(b) inventory: Isobutyl Acetate; OBSOLETE n-Butyl acetate; Ethyl Acetate SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ethyl Acetate: fire, immediate health hazard SARA 313 toxic chemical notification and release reporting: Benzene, 1,3-diisocyanatomethyl-0.10975% CERCLA: Hazardous substances.: Isobutyl Acetate; OBSOLETE n-Butyl acetate; Ethyl Acetate;	
<b>Other Regulations</b>	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). - 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. - 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. - There are several informative books and guides to the Act and the Regulation respecting Isocyanates published by the Ontario Government such as: · 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 These books may be obtained through your local office of the Ministry of Labour. - 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.	
<b>Other Classifications</b>	<b>WHMIS (Canada)</b>	<b>WHMIS CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).</b> <b>WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC).</b>
	<b>HCS (U.S.A.)</b>	Class: Contains material which may cause cancer. Class: Flammable liquid having a flash point lower than 37.8°C (100°F). 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>	

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## 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>	No additional information
<b>Related Information</b>	This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by CPR.
<b>Preparation Information</b>	<b>Validated by A McLeod on 2/15/2001.</b> <b>Verified by A McLeod.</b> <b>Printed 9/18/2002.</b>
<b>Information Contact</b>	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

### Notice to Reader

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