CROSSFIELD PRODUCTS CORPORATION

www.crossfieldproducts.com

3000 E. Harcourt St.
Rancho Dominguez, CA 90221 (Headquarters)
(310)-886-9100 (8:00 AM – 5:00 PM Pacific Time)

140 Valley Rd.
Roselle Park, NJ 07204
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SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	**Tek-Crete Sealer CP Part B**
CHEMICAL NAME/CLASS:	Polyisocyanate Curative
PRODUCT USE:	Decking Curative
SUPPLIER/MANUFACTURER'S NAME:	Crossfield Products Corp.
ADDRESS: (West Coast):	3000 E. Harcourt St. Rancho Dominguez, CA 90221 (Headquarters)
ADDRESS: (East Coast):	140 Valley Rd. Roselle Park, NJ 07204
EMERGENCY PHONE:	**CHEMTREC**: 800-424-9300
DATE OF PREPARATION:	April 19, 2016
REVISION DATE:	November 15, 2024

2. HAZARD(S) IDENTIFICATION

GHS Classification:
Eye irritation – Category 2A
Respiratory sensitization – Category 1
Skin sensitization – Category 1

Signal Word: (Danger)

Hazard Statements:
•H331: Toxic if inhaled
•H315 Causes skin irritation
•H302: Harmful if swallowed
•H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H332: Harmful if inhaled
H319: Causes serious eye irritation
H317 May cause an allergic skin reaction

Precautionary Statements:
P102: Keep out of reach of children
P103: Read label before use
P261: Avoid breathing dust/fume/gas/mist/vapors/spray
P264: Wash skin thoroughly after handling.
P272: Contaminated work clothing should not b e allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection
P285: In case of inadequate ventilation wear respiratory protection.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention.
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P363: Wash contaminated clothing before reuse.
P501: Dispose of contents and container in accordance with all local, regional, national and international regulations.

HMIS-RATINGS (SCALE 0 – 4)

HEALTH	2*
FLAMMABILITY	1
REACTIVITY	1

Health = 2*
Fire = 1
Reactivity = 0
* Chronic Health Hazard

NFPA RATING

EMERGENCY OVERVIEW: This product is a clear to pale yellow liquid solution. This solution is corrosive, and can be damaging to contaminated tissue. Ingestion of large quantities can be fatal. In the event of fire or spill, adequate precautions must be taken. If involved in a fire, this product may decompose to produce toxic or irritating combustion products and a variety of other compounds (i.e. carbon monoxide and carbon dioxide). Emergency responders must wear the proper personal protective equipment suitable for the situation to which they are responding.

SYMPTOMS OF OVER-EXPOSURE BY ROUTE OF EXPOSURE: This solution can damage skin, eyes, mucous membranes, and other contaminated tissue.

INHALATION: HDI aerosols or vapors at concentrations above the applicable exposure limits can irritate the mucous membranes in the respiratory tract causing runny nose, sore throat, dryness of the throat, chest tightness, coughing, chest discomfort, shortness of breath (dyspnea) and reduced lung function. Persons with pre-existing non-specific bronchial hyperreactivity can respond to concentrations below the exposure limits with similar symptoms as well as an asthma attack. Exposure well above the exposure limits may lead to bronchitis, bronchial spasm and pulmonary edema. These symptoms can be delayed up to several hours after exposure. Chemical or hypersensitive pneumonitis has also been reported. Other possible symptoms of overexposure include headache, wheezing, dizziness, nausea, narcosis, fatigue and loss of appetite. Chronic overexposure has been associated with various neurotoxic effects including permanent brain and nervous system damage, loss of memory, loss of intellectual ability and loss of coordination.

CONTACT WITH SKIN: Isocyanates react with skin protein and moisture and can cause irritation. Symptoms of skin irritation may include reddening, swelling, rash, scaling or blistering. Some persons may develop skin sensitization from skin contact. Cured material is difficult to remove. Repeated or prolonged contact can result in dry, defatted and cracked skin with increased susceptibility to infection. Additional irritation may develop into dermatitis.
CONTACT WITH EYES: Vapors are irritating and can cause pain, tearing, reddening and swelling if left untreated. Corneal damage can occur and injury is slow to heal, however damage is usually reversible.

SKIN ABSORPTION: Skin absorption is not anticipated to be a significant route of over-exposure to any component of this product.

INGESTION: Though ingestion is not anticipated to be a significant route of over-exposure to this product, if ingestion does occur it can result in irritation and possible corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Vomiting may cause aspiration of solvent resulting in chemical pneumonitis.
INJECTION: Though injection is not anticipated to be a significant route of over-exposure to this product, if it occurs, may cause local reddening, tissue swelling, and discomfort.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: A Brief Explanation in **Lay Terms**.

ACUTE: This solution is corrosive, and can burn and damage eyes, skin, mucous membranes, and any other exposed tissue. If inhaled, irritation of the respiratory system may occur, with coughing, and breathing difficulty. Though to occur during occupational use, ingestion of large quantities may be fatal. unlikely

CHRONIC: Repeated skin contact with this product may result in dermatitis (inflammation and reddening of the skin) and skin sensitization.

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	%w/w	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			
			TLV	STEL	PEL	STEL	IDLH	OTHER
			mg/m^3	mg/m^3	mg/m^3	mg/m^3	mg/m^3	mg/m^3
Homopolymer of HDI	28182-81-2	60-100	NE	NE	NE	NE	NE	MFR TWA: 0.5 MFR STEL: 1 (15-min)
Hexamethylene-1,6- Diisocyanate	822-06-0	0.1-1.0	0.005 ppm	NE	NE	NE	NE	NIOSH REL: TWA: 0.005 ppm C: 0.020 ppm (10-min)
Water and other ingredients. The other ingredients are each present in less than 1 percent concentration in this product.		Balance	The components present in the balance of this product do not contribute any significant, additional hazards. All hazard information pertinent to this product has been presented in the remaining sections of this Material Safety Data Sheet, per the requirements of Federal Occupational Safety and Health Hazard Communication Standard (29 CFR 1910.1200).					
VOC Component = 0 g/L			As Applied (Part of multi-component system) = 0 g/L					

NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used.
NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

4. FIRST-AID MEASURES

SKIN EXPOSURE: If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. Victim must seek medical attention.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Oils or ointments should not be used at this time. Victim must seek immediate medical attention.

INHALATION: If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Remove or cover gross contamination to avoid exposure to rescuers.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Victim should drink 1 – 2 glasses of water or milk. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow.

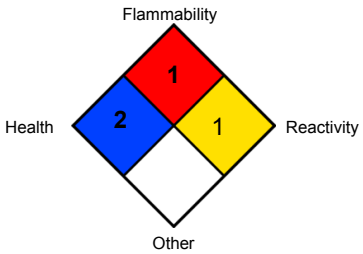
Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with victim.

5. FIRE-FIGHTING MEASURES

FLASH POINT °C (method): 160 °C (320 °F)
AUTOIGNITION TEMPERATURE: 435°C (815 °F)
FLAMMABLE LIMITS (in air by volume, % butyl acetate): Lower (LEL): NE
Upper (UEL): NE:

FIRE EXTINGUISHING MATERIALS: (Class IIIB combustible Liquid)
Water Spray: NO
Foam: YES
Halon: YES
Carbon Dioxide: YES
Dry Chemical: YES
Other: Any "ABC" Class

NFPA RATING



UNUSUAL FIRE AND EXPLOSION HAZARDS: Run-off from fire control may cause pollution. Keep fire-exposed containers cool with water spray to prevent rupture due to excessive heat. High pressure water hose may spread product from broken containers increasing contamination. If involved in a fire, this product may decompose to produce a variety of compounds (i.e. carbon monoxide, carbon dioxide, aldehydes, nitrogen oxides and compounds). Emergency responders must wear the proper personal protective equipment suitable for the situation to which they are responding. Products of combustion are irritating to the respiratory tract and may cause breathing difficulty. Symptoms may be delayed several hours or longer depending upon the extent of exposure.

Explosion Sensitivity to Mechanical Impact: Not sensitive.
Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move fire-exposed containers, if it can be done without risk to firefighters. If possible, prevent run-off water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, discard or decontaminate fire response equipment before returning such equipment to service.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel.

The proper personal protective equipment for incidental releases (e.g.-1 L of the product released in a well-ventilated area) use impermeable gloves, specific for the material handled, goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard-hat. Self Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, Select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.

Absorb spilled liquid with polypads or other suitable absorbent materials. Neutralize residue with sodium bicarbonate and water rinse. Decontaminate the area thoroughly. Test area with litmus paper to confirm neutralization. Place all spill residue in a suitable container. Dispose of in accordance with Federal, State, and local hazardous waste disposal regulations (see Section 13, Disposal Considerations).

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash hands after handling this product. Do not eat or drink while handling this material. Remove contaminated clothing immediately. Discard contaminated clothing items, or launder before re-use. Inform anyone handling such contaminated laundry of the hazards associated with this product. Use ventilation and other engineering controls to minimize potential exposure to this product.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Avoid breathing mists or sprays generated by this product. Use in a well-ventilated location.

For Non-Bulk Containers: Open containers slowly, on a stable surface. Containers of this product must be properly labeled. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers, or in a diked area, as appropriate. Store containers away from incompatible chemicals. Keep container tightly closed when not in use. Wash thoroughly after using this material. Storage areas should be made of fire-resistant materials. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Empty containers may contain residual liquid, therefore, empty containers should be handled with care.

Bulk Containers: All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash hands after handling this product. Do not eat or drink while handling this material. Remove contaminated clothing immediately. Discard contaminated clothing items, or launder before re-use. Inform anyone handling such contaminated laundry of the hazards associated with this product. Use ventilation and other engineering controls to minimize potential exposure to this product.

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Bulk Containers: All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

Tank Car Shipments: Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment.). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level, brakes must be set or wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tank (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be clean and free of incompatible chemicals, prior to connection to the tank car or vessel. Valves and hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment before maintenance begins by a triple-rinse with water followed, if necessary, by using sodium bicarbonate and an additional rinse. Collect all rinsates and dispose of according to applicable Federal, State, or local procedures.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: If required use a corrosion-resistant ventilation system separate from other exhaust ventilation systems to ensure that there is no potential for overexposure to sprays, or mists of this product and that exposures are below those in section 2 (Composition and Information on Ingredients). Ensure eyewash/safety shower stations are available near areas where this product is used.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, or applicable State regulations. If adequate ventilation is not available or if there is potential for airborne exposure above the exposure limits (listed in Section 2) a respirator may be worn up to respirator exposure limitations, check with respirator equipment manufactures recommendations/limitations. For a higher level of protection use positive pressure supplied air respiration protection or Self Contained Breathing Apparatus or if oxygen levels are below 19.5% or are unknown.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS:
Positive pressure, full-facepiece Self Contained Breathing Apparatus; or positive pressure, full-facepiece Self Contained Breathing Apparatus with an auxiliary positive pressure Self Contained Breathing Apparatus.

EYE PROTECTION: Splash goggles or safety glasses. Face-shields are recommended when the operation can generate splashes, sprays or mists.

HAND PROTECTION: Wear appropriate gloves for routine industrial use. Use appropriate gloves for spill response, as stated in Section 6 of this MSDS (Accidental Release Measures).

BODY PROTECTION: Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from natural rubber are generally acceptable, depending upon the task.

Safety Glasses

Safety Gloves

Synthetic Apron

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): ND
SPECIFIC GRAVITY (water = 1): 1.13
SOLUBILITY IN WATER: reacts .
VAPOR PRESSURE, mm Hg @ 21 °C: 5.2 x10-9
ODOR : ND
LOG WATER/OIL DISTRIBUTION COEFFICIENT: Not available.

EVAPORATION RATE (n-BuAc=1): ND
MELTING/FREEZING POINT: Not established.
BOILING POINT: >150 °F
pH: Not Established (Alkaline)

APPEARANCE AND COLOR: Clear to hazy amber liquid
HOW TO DETECT THIS SUBSTANCE (warning properties): ND

10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: Thermal decomposition products of this solution can include carbon monoxide, carbon dioxide, and other toxic or irritating compounds, including oxides of nitrogen, hydrogen cyanide and hexamethylene diisocyanate. Combustion may produce isocyanate vapors.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product may react with oxidizers. Additionally, it is incompatible with water, amines, strong bases, alcohols, metal compounds and surface active materials. Avoid contact with free radical initiators.

HAZARDOUS POLYMERIZATION: Avoid heating above 400 ºF.(204 ºC).

CONDITIONS TO AVOID: Avoid exposure or contact to extreme temperatures and incompatible chemicals.

11. TOXICALOGICAL INFORMATION

TOXICITY DATA: Additional toxicology information for components greater than 1 percent in concentration is provided below.

Homopolymer of Hexamethylene Diisocyanate

Acute Oral LD_{50} (rat) : > 5,000 mg/kg

Acute Dermal LD_{50} (rabbit) : >5000 mg/kg
Acute Inhalation LC_{50} (rat): 390-453 mg/m3, aerosl, 4hrs, lower respiratory irritant
NOAEL (rat): 3.7 – 4.3 mg/m3, 3 wks inhalation
NOAEL (rat): 3.3 – 3.4 mg/m3, 90 days inhalation

SUSPECTED CANCER AGENT: The major components of this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA in concentrations > 0.1 %; and are therefore not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product is severely irritating and corrosive to contaminated tissue.

SENSITIZATION TO THE PRODUCT: Prolonged or repeated skin contact can result in the development of rashes, and other allergy-like symptoms.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product is not reported to produce mutagenic effects in humans, however, a component may be mutagenic – the data is inconclusive..

Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.

Teratogenicity: This product is not reported to cause teratogenic effects in humans.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process.

BIOLOGICAL EXPOSURE INDICES: Currently there are no Biological Exposure Indices (BEIs) associated with the components of this product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE Skin disorders can be aggravated by over-exposure to this product. Inhalation of this products mists may aggravate respiratory conditions.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate over-exposure to this product.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The components of this product are relatively stable in the environment; they may degrade, after time, into other organic and inorganic constituents.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: This product is harmful to plant and animal life if this product is released into the environment. As with all chemicals, work practices should be aimed at eliminating environmental releases.

EFFECT OF CHEMICAL ON AQUATIC LIFE This product can substantially alter the pH of an aquatic environment and can be toxic to fish and aquatic plants. As with all chemicals, work practices should be aimed at eliminating environmental releases.

Homopolymer of Hexamethylene Diisocyanate:
Biodegradation:
0%, Exposure Time: 28 days, not readily biodegradable
Acute and Prolonged Exposure to Fish:
LCo: > 100 mg/l, (Zebra fish, 96 hrs)
Acute Toxicity to Aquatic Invertebrates:
ECo: >100 mg/l, (Water flea, 48 hrs)
Toxicity to Aquatic Plants:
EC50: >1000 mg/l (Green algae, 72 hrs)
Toxicity to Microorganisms:
EC50: >1000 mg/l (Activated sludge microorganisms, 3 hrs)

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. It may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

14. TRANSPORTATION INFORMATION

TRANSPORTATION.

PROPER SHIPPING NAME:	Other regulated substances, liquid, n.o.s. (contains Hexamethylene-1,6-Diisocyanate)
HAZARD CLASS NUMBER and DESCRIPTION:	9
UN IDENTIFICATION NUMBER:	NA3082
PACKING GROUP:	III
DOT LABEL(S) REQUIRED:	Hexamethylene-1,6-Diisocyanate

Note: When shipped in individual containers of less than the Product RQ (33,333 lbs), this material ships as non-regulated.

ICAO/IATA SHIPPING DATA: Non-Regulated

IMDG SHIPPING DATA: Non-Regulated

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): 156
MARINE POLLUTANT: This product does not contain any components which are designated by the Department of Transportation to be Marine Pollutants. (49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS NOT CONSIDERED AS DANGEROUS GOODS. This product contains the following chemical(s) listed on the WHMIS Ingredient Disclosure List at or above the specified concentration limit: Hexamethylene Diisocyanate. Use the above information for the preparation of Canadian Shipments.

Note: The latest DOT information is provided, please verify all DOT information as it subject to change without notice.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: The components of this product subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act are as follows.

COMPONENT	SARA 302	SARA 304	SARA 313
Hexamethylene Diisocyanate Polymer	No	No	No
Hexamethylene-1,6 Diisocyanate	No	Yes	Yes

SARA Threshold Planning Quantity: Not applicable.

TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.
DOT REGULATED COMPONENT (RQ): Hexamethylene-1,6-Diisocyanate
Reportable Quantity– 33,333 lbs

CERCLA REPORTABLE QUANTITY (RQ): Hexamethylene-1,6-Diisocyante - 100 lbs
OTHER FEDERAL REGULATIONS: Not applicable.

STATE REGULATORY INFORMATION: Components of this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: No
California - Permissible Exposure Limits for Chemical Contaminants: No
Florida - Substance List: No.
Illinois - Toxic Substance List: No
Kansas - Section 302/313 List: No
Massachusetts – Right to Know Substance List: Homopolymer of Hexamethylene Diisocyanate.
Minnesota - List of Hazardous Substances: No
Missouri - Employer Information/Toxic Substance List: , No
New Jersey - Right to Know Hazardous Substance List: Hexamethylene-1,6-Diisocyanate.
North Dakota - List of Hazardous Chemicals, Reportable Quantities: No
Pennsylvania - Hazardous Substance List: : Homopolymer of Hexamethylene Diisocyanate.
Rhode Island - Hazardous Substance List: No
Texas - Hazardous Substance List: No
West Virginia Substance List: No
Wisconsin - Toxic and Hazardous Substances: No

CALIFORNIA PROPOSITION 65: Methanol 67-56-1 <0.1%

WHMIS:

Class D2A, D2B, Other Toxic Effects

Class F, Dangerously Reactive Material

16. OTHER INFORMATION

PREPARED BY: ANDREW WATT

THIS INFORMATION IS DRAWN FROM RECOGNIZED SOURCES BELIEVED TO BE RELIABLE. CROSSFIELD PRODUCTS CORP. MAKES NO GUARANTEES NOR ASSUMES ANY LIABILITY IN CONNECTION WITH THIS INFORMATION. THE USER SHOULD BE AWARE OF CHANGING TECHNOLOGY, RESEARCH, REGULATIONS AND ANALYTICAL PROCEDURES THAT MAY REQUIRE CHANGES HEREIN. THE ABOVE DATA IS SUPPLIED UPON THE CONDITION THAT PERSONS WILL EVALUATE THIS INFORMATION AND THEN DETERMINE ITS SUITABILITY FOR THEIR USE.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

EXPOSURE LIMITS IN AIR:
ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.
TLV - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour **Time Weighted Average (TWA)**, the 15-minute **Short Term Exposure Limit**, and the instantaneous **Ceiling Level**. Skin adsorption effects must also be considered.
OSHA - U.S. Occupational Safety and Health Administration.
PEL - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.
IDLH - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. **O**ccupational **S**afety and **H**ealth **A**dministration (**OSHA**). NIOSH issues exposure guidelines called **R**ecommended **E**xposure **L**evels (**REL**s). When no exposure guidelines are established, an entry of **NE** is made for reference.

HMIS HAZARD RATINGS:
HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime over-exposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime over-exposure can be fatal). Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]). Reactivity Hazard: **0** (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:
Much of the information related to fire and explosion is derived from the **N**ational **F**ire **P**rotection **A**ssociation (**NFPA**). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:
Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD_{50}** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC_{50}** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m³** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause death. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REGULATORY INFORMATION:
This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Other acronyms used are: **Superfund Amendments and Reauthorization Act (SARA)**; the **Toxic Substance Control Act (TSCA)**; Marine Pollutant status according to the **DOT**; California's Safe Drinking Water Act (**Proposition 65**); the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)**; and various state regulations. This section also includes information on the precautionary warnings which appear on the materials package label.