

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)
 Eastern Time)

140 Valley Rd.
 Roselle Park, NJ 07204
 (908)-245-2800 (8:00 AM – 5:00 PM)

SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

<u>TRADE NAME (AS LABELED):</u>	Mirathane MCU Clear, PART A
<u>CHEMICAL NAME/CLASS:</u>	Amino Functional Resin
<u>PRODUCT USE:</u>	Floor and Decking Topcoat
<u>SUPPLIER/MANUFACTURER'S NAME:</u>	Crossfield Products Corp.
<u>ADDRESS: (West Coast):</u>	3000 E. Harcourt St. Rancho Dominguez, CA 90221 (Headquarters)
<u>ADDRESS: (East Coast):</u>	140 Valley Rd. Roselle Park, NJ 07204
<u>EMERGENCY PHONE:</u>	CHEMTREC: 800-424-9300
<u>DATE OF PREPARATION:</u>	October 15, 2019
<u>REVISION DATE:</u>	April 8, 2021

2. HAZARD(S) IDENTIFICATION



GHS Classification;

Flammable Liquids – Category 4
 Skin Corrosion – Category 1C
 Skin sensitization – Category 1A
 Eye irritation – Category 2A
 Serious Eye Damage – Category 1

Signal Word: (Danger)

Hazard Statements:

H227 Combustible liquid
 H317: May cause an allergic skin reaction
 H402: Harmful to aquatic life
 H314: Causes severe skin burns and eye damage
 H319: Causes serious eye irritation.

Precautionary Statements:

P102: Keep out of reach of children
 P103: Read label before use
 P210: Keep away from heat/sparks/open flames/hot surfaces – no smoking
 P260 Do not breathe dust/fume/gas/mist/vapors/spray
 P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264: wash thoroughly after handling.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P301+P330+P331: IF SWALLOWED: Rinse mouth,. So NOT induce vomiting.
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P363: Wash contaminated clothing before reuse.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310: Immediately call a POISON CENTER or doctor.
 P321: Specific treatment (see section 4 on this SDS)
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

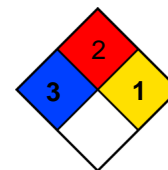
P337+P313: If eye irritation persists: Get medical advice/attention.
 P302+P352: IF ON SKIN: Wash with plenty of water.
 P333+P364: Take off contaminated clothing. Wash before re-use.
 P370+P378: In case of fire: Use dry chemical, carbon dioxide, foam to extinguish.
 For detailed information, see Section 5 (Fire fighting Measures)

HMIS-RATINGS (SCALE 0 – 4)

HEALTH	3
FLAMMABILITY	2
REACTIVITY	1

NFPA RATING

Health = 3
 Fire = 2
 Reactivity = 1



3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	% w/w	EXPOSURE LIMITS IN AIR					
			ACGIH			OSHA		
			TLV mg/m ³	STEL mg/m ³	PEL mg/m ³	STEL mg/m ³	IDLH mg/m ³	OTHER mg/m ³
Isophorondiamine-isobutyaldimine	54914-37-3	60 - 100	NE	NE	NE	NE	NE	NE
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).					

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: Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use or discard.

EYE EXPOSURE: Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

INHALATION: Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

INGESTION: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.
 Give 1 or 2 glasses of milk or water to drink and refer person to medical personnel. Do not give anything by mouth to an unconscious person.
 IF exposed or concerned: Get medical advice/attention.

5. FIRE-FIGHTING MEASURES

FLASH POINT, °C (method): = 77°C (170°F) Closed Cup

AUTOIGNITION TEMPERATURE, °C: ND

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): NE

Upper (UEL): NE

FIRE EXTINGUISHING MATERIALS:

Water Spray: YES

Foam: YES

Halon: ND

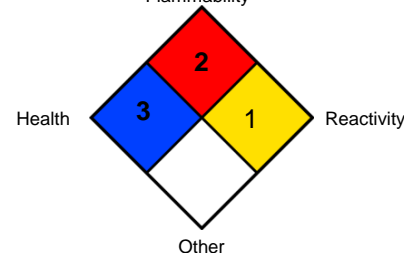
Carbon Dioxide: YES

Dry Chemical: YES

Other: Any "ABC" Class.

NFPA RATING

Flammability



Suitable Extinguishing Media:

Dry chemical, foam, carbon dioxide water spray or fog is recommended. Water spray is recommended to cool or protect exposed material or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

Specific Hazards in Case of Fire:

Sudden reaction and fire may result when the product is exposed to oxidizing agents.

Fire-fighting Procedures:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions:

Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required.

Care should always be exercised in dust/mist areas.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material.

Clean up immediately.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Recommended Equipment:

Appropriate dust or face mask to eliminate breath foam dust particulates.

Personal Precautions:

Avoid breathing vapors. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and cleaning up:

Soak up material with absorbent and shovel into a chemical waste container. Cover container, but do not seal, and remove from work area. Residues from spill cleanup may continue to be regulated under provision of RCRA and require storage and disposal as hazardous waste. For major spill, call CHEMTREC (Chemical Transportation Emergency Center) at 800-424-9300

7. HANDLING and STORAGE

General:

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Do not breathe vapors or mists.

Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Eyewash stations and showers should be available in areas where this material is used and stored

Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage room Requirements:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep container securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous.

Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Ground and bond containers and receiving equipment. Avoid static electricity by grounding.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Eye Protection:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection:

Use of gloves approved to relevant standard made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Stability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, with cannot be decontaminated.

Depending on conditions of use, additional protection may be required such as apron, arm cover, or full body suit..

Wash contaminated clothing before re-wearing.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. When airborne concentrations exceed or are expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied air respirator with a full-face piece or an air supplied hood. For emergencies, use a positive pressure self-container breathing apparatus.

Appropriate engineering controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. See section 3 for limit values.

None of the dchemical in Section 3 are regulated under "OSHA Tables Z1_Z2_Z3", "OSHA Carcinogen – OSHA Carcinogen", "OSHA ppm", "nioshtmg", "nioshppm", "nioshsmg", "NIOSH_carcinogen", "OSHA_SkinDesignation"



Vapor Respirator



Safety Glasses



Safety Gloves



Synthetic Apron

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): ND

SPECIFIC GRAVITY (water = 1): 0.86 (7.17 lb/gal)

SOLUBILITY IN WATER: Not soluble.

VAPOR PRESSURE, mm Hg @ 20 °C: Heavier than air

ODOR: Slight (Amine like)

LOG WATER/OIL DISTRIBUTION COEFFICIENT: Not available.

APPEARANCE AND COLOR: This product is a pale yellow liquid with a slight amine odor.

HOW TO DETECT THIS SUBSTANCE (warning properties): ND

VOC Regulatory: 0.00 lb/gal

EVAPORATION RATE (n-BuAc=1): Slower than ether

MELTING/FREEZING POINT: ND

BOILING POINT: ND

pH: Not Established

10. STABILITY and REACTIVITY

STABILITY: Stable at standard temperature and pressure.

DECOMPOSITION PRODUCTS: combustion products: organic vapors and thermal decomposition fragments.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product will react with any material containing isocyanate. Some reaction can be violent.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Heat, high temperature, open flame, and moisture. Avoid contact with incompatible materials

11. TOXICOLOGICAL INFORMATION

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

Isophorodiamine-isobutyraldimine: (54914-37-3)

Acute Oral Toxicity:	LD50: 4,150 mg/kg	(Rat)	(OECD Test Guideline 401)
Acute Inhalation Toxicity:	No data available		
Acute Dermal Toxicity	LD50: >5,000 mg/kg	(Rat)	(OECD Test Guideline 402)
Skin corrosion/irritation:	Corrosive (Category 1C)		(OECD Test guideline 404)
Serious eye damage/eye irritation:	Irritating to eyes (Rabbit)		(OECD Test Guideline 405)
Respiratory or skin sensitization:	Sensitizer (Category 1A)	(guinea pig)	Magnusson-Kligman test (OECD Test Guideline 406)
Repeated dose toxicity	No data available		
Assessment of STOT repeat exposure	Assessment: The substance or mixture is not classified as a specific target organ toxicant, repeated exposure. The value is given in analogy to the following substances: isophorone diamine		
Gentoxicity in vitro:	Ames Test	Negative	(OECD TG 471)
	Chromosomal aberration	Negative	(OECD TG 473)
	HGPRT-Test	Negative	(OECD TG 476)
Carcinogenicity Assessment:	Contains no carcinogenic substances as defined by NTP, IARC and/or OSHA		
CMR Assessment:			
Carcinogenicity	The carcinogenic effect of the substance has not yet been determined in a long-term animal study. The substance is not genotoxic. Generally speaking, carcinogenic substances are genotoxic. Therefore, this type of carcinogenic effect can be considered improbable for this substance.		
Mutagenicity	Based on available data, the classification criteria are not met.		
Teratogenicity	Based on available data, the classification criteria are not met. isophorone diamine		
Toxicity to reproduction	No data available		
Reproductive toxicity:	No data available		

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION

Isophorodiamine-isobutyraldimine: (54914-37-3)

Toxicity to fish:	LC50 – Danio rerio – >100 mg/l (96 h)	(OECD Test Guideline 203)
Toxicity to daphnia and other Aquatic invertebrates	EC50 – Daphnia magna (Water flea) – 14.7 mg/l (48 h)	(OECD Test Guideline 202)
Toxicity to Algae:	ErC50 – Desmodesmus subspicatus – >100 mg/l	(OECD Test Guideline 201)
	NOEC – Desmodesmus subspicatus – 7.6 mg/l	(OECD Test Guideline 201)
Toxicity to bacteria:	EC50 – Activated Sludge – 302.4 mg/l (3 h)	(OECD Test Guideline 209)
Chronic toxicity in daphnia	NOEC – Daphnia magna (water flea) – 3 mg/l (21 d) test substance: isophoronediamine	(OECD 202 part 2)
Persistence and degradability	Biodegradability (28 d) result 34%	Not readily biodegradable (OECD Test Guideline 301 F)
Bioaccumulative potential	No data available	
Mobility in soil	No data available	
Other adverse effects:	No further ecotoxicological data are available	

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Incineration is a preferred method. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Empty containers must be handled with care due to product residue. **DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS TORCH**

EPA WASTE NUMBER: NA

14. TRANSPORTATION INFORMATION

Department of Transportation

Name: Paint Related Material
 UN Number UN3066
 Class 8
 Packing Group III
 Placard: Corrosive

IATA

Name: Paint Related Material
 UN Number UN3066
 Class 8
 Packing Group III
 Placard: Corrosive

IMDG

Name: Paint Related Material
 UN Number UN3066
 Class 8
 Packing Group III
 Placard: Corrosive

15. REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
54914-37-3	Aldimine	60 - 100	DSL, SARA 312, TSCA

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

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Not listed

CALIFORNIA PROPOSITION 65: The components of this product are not known to the state of California to cause cancer, birth defects or other reproductive harm. -

Not listed

WHMIS Classification:

Not listed

Canadian DSL: All components of this product are on the Canadian DSL.

16. OTHER INFORMATION

PREPARED BY: BILL BEACH CROSSFIELD PRODUCTS CORP,

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. Occupational Safety and Health Administration (**OSHA**). NIOSH issues exposure guidelines called **Recommended Exposure Levels (RELs)**. 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 **National Fire Protection Association (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: **LD₅₀** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC₅₀** - 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.