

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

TRADE NAME (AS LABELED): Clearseal 14 – Gloss and Low Gloss

CHEMICAL NAME/CLASS: Modified Acrylic Resin

PRODUCT USE: Specialty Flooring Resin

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: March 31, 2010

REVISION DATE: June 15, 2020

2. HAZARD(S) IDENTIFICATION



GHS classification:

- Flammable liquids – Category 3
- Skin corrosion/irritation – Category 2
- Serious eye damage/eye irritation – Category 2A
- Skin Sensitization – Category 1
- Carcinogenicity – Category 1B
- Reproductive toxicity – Category 2
- Specific target organ toxicity (single exposure) – Category 3
- Specific target organ toxicity (repeated exposure) – Category 2
- Aspiration hazard – Category 1
- Acute aquatic toxicity – Category 2
- Chronic aquatic toxicity – Category 2

Signal Word: (Danger)

Hazard Statements:

- H226 - Flammable liquid and vapor.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H319 - Causes serious eye irritation.
- H336 - May cause drowsiness or dizziness.
- H350 - May cause cancer.
- H361 - Suspected of damaging fertility or the unborn child.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H401 - Toxic to aquatic life. H411 - Toxic to aquatic life with long lasting effects.

Precautionary Statements:

- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking
- P240 - Ground/bond container and receiving equipment.

- P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P260 - Do not breathe vapors, mist, or spray.
- P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing must not be allowed out of the workplace.
- P273 - Avoid release to the environment. P280 - Wear protective gloves, protective clothing, and eye protection.
- P301+P310 - If swallowed: Immediately call a poison center or doctor.
- P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 - If inhaled: Remove person 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.
- P308+P313 - If exposed or concerned: Get medical advice/attention.
- P331 - Do NOT induce vomiting.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
- P391 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.
- P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US)

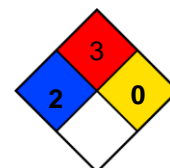
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HMIS-RATINGS (SCALE 0 – 4)

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0

Health = 2
Fire = 3
Reactivity = 0

NFPA RATING



3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Product Identifier (CAS#)	%	GHS-US Classification	USA ACGIH	ACGIH TWA (ppm)	100 ppm
Proprietary Ingredient 1	Proprietary	30 - 40	Flam. Liq. 3, H226 Skin sens. 1B, H317 Aquatic Acute 2, H401 Aquatic Chronic 2, H411	USA ACGIH USA ACGIH USA ACGIH USA ACGIH	ACGIH TWA (ppm) ACGIH STEL (ppm) ACGIH Chemical Category Biological Exposure Indices (BEI)	150 ppm Not Classifiable as a Human Carcinogen 1.5 g/g Kreatinin Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift
Proprietary Ingredient 2	Proprietary	30 - 40	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336	USA ACGIH USA ACGIH USA ACGIH USA ACGIH	ACGIH TWA (ppm) ACGIH STEL (ppm) ACGIH Chemical Category Biological Exposure Indices (BEI)	250 ppm 500 ppm Not Classifiable as a Human Carcinogen 25 mg/l Parameter: Acetone- Medium: urine - Sampling time: end of shift (nonspecific)
Proprietary Ingredient 3	Proprietary	5 - 15	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox 1, H304	USA ACGIH USA ACGIH USA ACGIH USA ACGIH USA OSHA	ACGIH TWA (ppm) ACGIH STEL (ppm) ACGIH Chemical Category Biological Exposure Indices (BEI) OSHA PEL (TWA)	100 ppm 150 ppm Not Classifiable as a Human Carcinogen 1.5 g/g Kreatinin Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift 435 mg/m ³ (100 ppm)

Chemical Name	Product Identifier (CAS#)	%	GHS-US Classification			
Proprietary Ingredient 4	Proprietary	< 5	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapor), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412	USA ACGIH USA ACGIH USA ACGIH USA NIOSH USA NIOSH USA IDLH USA OSHA	ACGIH TWA (ppm) ACGIH Chemical Category Biological Exposure Indices (BEI) NIOSH REL (TWA) NIOSH STEL US IDLH OSHA PEL (TWA)	20 ppm Confirmed Animal Carcinogen with Unknown Relevance to Humans 0.15 g/g Kreatinin Parameter: Sum of mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time end of shift (nonspecific) 435 mg/m ³ (100 ppm) 545 mg/m ³ (125 ppm) 800 ppm (10% LEL) 435 mg/m ³ (100 ppm)
Proprietary Ingredient 5	Proprietary	< 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 3, H412	USA ACGIH USA ACGIH USA ACGIH USA NIOSH USA NIOSH USA IDLH USA OSHA USA OSHA	ACGIH TWA (ppm) ACGIH Chemical Category Biological Exposure Indices (BEI) NIOSH REL (TWA) NIOSH STEL US IDLH OSHA PEL (TWA) OSHA PEL (Ceiling)	20 ppm Not Classifiable as a Human Carcinogen 0.02 mg/l Parameter: Toluene - Medium: blood -Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium urine - Sampling time: end of shift 0.3 mg/g Kreatinin Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: endof shift(background) 375 mg/m ³ (100 ppm) 560 mg/m ³ (150 ppm) 500 ppm 200 ppm 300 ppm
Proprietary Ingredient 6	Proprietary	< 1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2B, H320 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402	USA ACGIH USA ACGIH USA ACGIH USA NIOSH USA IDLH USA OSHA	ACGIH TWA (ppm) ACGIH STEL (ppm) ACGIH Chemical Category NIOSH REL (TWA) US IDLH OSHA PEL (TWA)	50 ppm 100 ppm dermal sensitizer, Not Classifiable as a Human Carcinogen 410 mg/m ³ (100 ppm) 1000 ppm 410 mg/m ³ (100 ppm)
Proprietary Ingredient 7	Proprietary	< 1	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402			
Proprietary Ingredient 8	Proprietary	< 1	Flam. Liq. 3, H226 Carc. 1B, H350 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411	USA ACGIH USA NIOSH USA IDLH USA OSHA USA OSHA	ACGIH TWA (ppm) NIOSH REL (TWA) US IDLH OSHA PEL (TWA) Limit value category (OSHA)	50 ppm 245 mg/m ³ (50 ppm) 900 ppm (10% LEL) 245 mg/m ³ (50 ppm) prevent or reduce skin absorption

4. FIRST-AID MEASURES

Description of First Aid Measures First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed Symptoms/Injuries: May be fatal if swallowed and enters airways. May cause drowsiness and dizziness. May cause an allergic skin reaction. Causes skin irritation. Causes serious eye irritation. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child.

Symptoms/Injuries After Inhalation: High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: May cause cancer. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child. Repeated exposure may cause skin dryness or cracking.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

5. FIRE-FIGHTING MEASURES

FLASH POINT, °C (method): =31°C (87.8°F) Closed Cup

AUTOIGNITION TEMPERATURE, °C: ND

FLAMMABLE LIMITS (in air by volume, %):

Lower (LEL): 1.0%

Upper (UEL): 7.0%

FIRE EXTINGUISHING MATERIALS:

Water Spray: YES (for container cooling)

Foam: YES

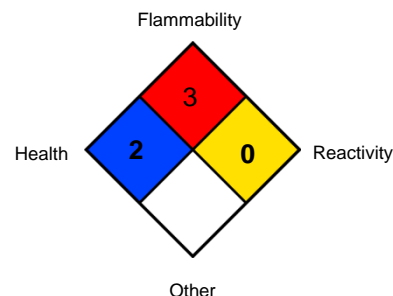
Halon: ND

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.

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.

For Routine Industrial Applications



Vapor Respirator



Safety Goggles



Safety Gloves



Protective Clothing

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): 4

SPECIFIC GRAVITY (water = 1): 1.7

SOLUBILITY IN WATER: Not soluble.

VAPOR PRESSURE, mm Hg @ 20 °C: ND

ODOR: ND

LOG WATER/OIL DISTRIBUTION COEFFICIENT: Not available.

APPEARANCE AND COLOR: Clear, slight haze

HOW TO DETECT THIS SUBSTANCE (warning properties): ND

EVAPORATION RATE (n-BuAc=1): 2

MELTING/FREEZING POINT: ND

BOILING POINT: 110 °C (230 °F)

pH: 8 - 9

10. STABILITY and REACTIVITY

STABILITY: Stable.

DECOMPOSITION PRODUCTS: Fire will produce carbon monoxide, carbon dioxide.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product reacts violently with strong oxidizers. Increased risk of fire or explosion.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure to direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials and other ignition sources.

11. TOXICOLOGICAL INFORMATION

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

Proprietary Ingredient 1	
LD50 Oral Rat	13 g/kg
LD50 Dermal Rabbit	> 2 ml/kg
LC50 Inhalation Rat	11.00 mg/l/4h
Proprietary Ingredient 2	
LD50 Oral Rat	5800 mg/kg
LD50 Dermal Rabbit	15688 mg/kg
LC50 Inhalation Rat	44 g/m ³
LC50 Inhalation Rat	75.8 mg/l/4h

Proprietary Ingredient 3	
LD50 Oral Rat	>5,000 mg/kg
ATE (Dermal)	1100 mg/kg body weight
ATE (Vapors)	11.00 mg/l/4h
Proprietary Ingredient 4	
LD50 Oral Rat	3500 mg/kg
LD50 Dermal Rabbit	15400 mg/kg
LC50 Inhalation Rat	17.2 mg/l/4h

Proprietary Ingredient 5	
LD50 Oral Rat	5580 mg/kg
LD50 Dermal Rabbit	1200 mg/kg
LC50 Inhalation Rat	12.5 mg/l/4h
LC50 Inhalation Rat	25.7 mg/l/4h
Proprietary Ingredient 6	
LD50 Oral Rat	8420 - 10000 mg/kg
LD50 Dermal Rabbit	5000 - 7500 mg/kg
LC50 Inhalation Rat	29 mg/l/4h
LC50 Inhalation Rat	7093 ppm/4h

Proprietary Ingredient 7	
LD50 Oral Rat	16 g/kg
LD50 Dermal Rabbit	10181 mg/kg
LC50 Inhalation Rat	4910 ppm/4h
Proprietary Ingredient 8	
LD50 Oral Rat	2260 mg/kg
LD50 Dermal Rabbit	10000 mg/kg
LC50 Inhalation Rat	9.83 mg/l/4h
LC50 Inhalation Rat	> 3577 ppm (Exposure time: 6 h)

Skin Corrosion/Irritation: Causes skin irritation pH: 8-9
 Serious Eye Damage/Irritation: Causes serious eye irritation pH: 8-9
 Respiratory or Skin Sensitization: May cause an allergic skin reaction.
 Germ Cell Mutagenicity: Not classified
 Carcinogenicity: May cause cancer

	IARC Group	OSHA Specifically Regulated Carcinogen List	National Toxicology Program (NTP) Status	OSHA Hazard Communication Carcinogen List
Proprietary Ingredient 2		In List		
Proprietary Ingredient 3	3			
Proprietary Ingredient 4	2B		Evidence of Carcinogenicity	In List
Proprietary Ingredient 5	3			
Proprietary Ingredient 6	3			
Proprietary Ingredient 8	2B	In List	Evidence of Carcinogenicity, Reasonably anticipated to be Human Carcinogen	

Reproductive Toxicity: suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness.
Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure
Aspiration Hazard: May be fatal if swallowed and enters airways.
Symptoms/Injuries After Inhalation: High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.
Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.
Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.
Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury
Chronic Symptoms: May cause cancer. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility or the unborn child. Repeated exposure may cause skin dryness or cracking.

*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.*

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION

Toxicity

Ecology – General: Toxic to aquatic life with long lasting effects

Proprietary Ingredient 1	
EC50 Daphnia 1	3.68 mg/l (Exposure time: 48 h - Species Daphnia magna)
Proprietary Ingredient 2	
LC50 Fish 1	4144.846 mg/l (Exposure time: 48 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	1679.66 mg/l (Exposure time: 48 h - Species: Pimephales promelas [static])
LC50 Fish 2	6210 (6210 - 8120) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	12600 (12600 - 12700) mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Proprietary Ingredient 3	
LC50 Fish 1	3.3 mg/l
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC50 Fish 2	2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC Chronic Crustacea	1.17
Proprietary Ingredient 4	
LC50 Fish 1	11.0 - 18.0 mg/l (Exposure time: 96 h - species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	108 - 2.4 mg/l (Exposure time: 48 h - species: Daphnia magna)
LC50 Fish 2	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
Proprietary Ingredient 5	
LC50 Fish 1	15.22 (15.22 - 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	5.46 (5.46 - 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
LC50 Fish 2	12.6 mg/l (Exposure time: 96 h - Species: pimephales pomelas [static])
EC50 Daphnia 2	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC Chronic Crustacea	0.74 mg/l (Ceriodaphnia dubia)
Proprietary Ingredient 8	
LC50 Fish 1	6.04 - 6.61 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 Fish 2	4.8 mg/l (Exposure time: 96 h - species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	7.9 - 14.1 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
NOEC Chronic Crustacea	0.35 mg/l
NOEC Chronic Algae	0.22 mg/l

Persistence and Degradability:

MiraGard HD 100 Sealer: May cause long-term adverse effects in the environment.

Proprietary Ingredient 2: Readily biodegradable in water

Bioaccumulative Potential

	BCF Fish 1	Log Pow	Log Kow
Proprietary Ingredient 1		3.7 (at 25°C)	
Proprietary Ingredient 2	0.69	-0.24	-0.24
Proprietary Ingredient 3	0.6 (0.6 - 15)	2.77 - 3.15	
Proprietary Ingredient 4	15	3.2	
Proprietary Ingredient 5		2.7	
Proprietary Ingredient 6		0.7	
Proprietary Ingredient 7		2.26	
Proprietary Ingredient 8	35.5	3.7	

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: Dispose of contents/container in accordance with local, regional, national, and international regulations. Handle empty containers with care because residual vapors are flammable.

Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

14. TRANSPORTATION INFORMATION

Department of Transportation

Name: PAINT RELATED MATERIAL
 UN Number UN1263
 Class 3
 Packing Group III
 Marine Pollutant Yes
 ERG Number 128



IMDG

Name: Paint Related Material
 UN Number UN1263
 Class 3
 Packing Group III
 Marine Pollutant: Yes
 Label Codes 3
 EmS-No. (Fire) F-E
 EmS-No. (Spillage) S-E



IATA

Name: Paint Related Material
 UN Number UN1263
 Class 3
 Packing Group III
 Marine Pollutant: Yes
 Label Codes 3
 ERG Code (IATA) 3L



15. REGULATORY INFORMATION

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic health hazard)
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Proprietary Ingredient 1	Listed on the United States TSCA (Toxic Substances Control Act) inventory
EPA TSCA Regulatory Flag	T (T indicates a substance that is the subject of a Section 4 test rule under TSCA)

Proprietary Ingredient 3	Listed on the United States TSCA (Toxic Substances Control Act) inventory
CERCLA RQ	100 lb
SARA Section 313 – Emission Reporting	1.0%

Proprietary Ingredient 2	Listed on the United States TSCA (Toxic Substances Control Act) inventory
CERCLA RQ	5000 lb

Proprietary Ingredient 4	Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313
EPA TSCA Regulatory Flag	T (T indicates a substance that is the subject of a Section 4 test rule under TSCA)
CERCLA RQ	1000 lb
SARA Section 313 – Emission Reporting	0.1%

Proprietary Ingredient 5	Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313
CERCLA RQ	1000 lb
SARA Section 313 – Emission Reporting	1.0%

Proprietary Ingredient 6	Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313
EPA TSCA Regulatory Flag	T (T indicates a substance that is the subject of a Section 4 test rule under TSCA)
CERCLA RQ	1000 lb
SARA Section 313 – Emission Reporting	1.0%

Proprietary Ingredient 7	Listed on the United States TSCA (Toxic Substances Control Act) inventory
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Proprietary Ingredient 8	Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313
CERCLA RQ	5000 lb
SARA Section 313 – Emission Reporting	1.0%

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

	CA Prop. 65 Carcinogen List ¹	CA Prop. 65 Developmental Toxicity ²	MA Right-to- Know	NJ Right-to- Know	Pennsylvania Right-to-Know
Proprietary Ingredient 2			Yes	Yes	Yes
Proprietary Ingredient 3			Yes	Yes	Yes
Proprietary Ingredient 4	Yes		Yes	Yes	Yes
Proprietary Ingredient 5		Yes	Yes	Yes	Yes
Proprietary Ingredient 6			Yes	Yes	Yes
Proprietary Ingredient 7			Yes	Yes	Yes
Proprietary Ingredient 8	Yes		Yes	Yes	Yes

1) Warning: This product contains chemicals known to the State of California to cause cancer

2) Warning: This product contains chemicals known to the State of California to cause birth defects.

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:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2

Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Skin Sens. 1B	Skin sensitization Category 1B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

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.