CHOCKFAST ORANGE HARDENER

This product appears in the following stock number(s):
1010U 1020U

Last revised: 03/20/03
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: CHOCKFAST ORANGE HARDENER

General use: The following data pertain to the hardener only; properly mixed and cured epoxies are not hazardous.

Chemical family: Aliphatic amines

MANUFACTURER

ITW Philadelphia Resins
130 Commerce Dr.
Montgomeryville, PA 18936

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC): (800) 424-9300
Other Calls: (215) 855-8450

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS CONSTITUENTS **Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	ACGIH TLV	OSHA PEL	Other Limits
Triethylenetetramine	TETA	112243	> 80	n/e	n/e	1 ppm (skin) (AIHA-WEEL)

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit."n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance, form, odor: amber liquid with fishy odor.

DANGER! Corrosive. Causes eye and skin burns. Eye, skin and respiratory irritant. Toxic by skin absorption. May cause skin sensitization.

Potential health effects

Primary routes of exposure: ☒ Skin contact ☒ Skin absorption ☒ Eye contact ☐ Inhalation ☒ Ingestion

Symptoms of acute overexposure:

Skin: Corrosive. Severe irritant. Can cause pain, burns, necrosis and permanent injury. Toxic by skin absorption (malaise, discomfort, injury and death unless treated promptly). May cause skin sensitization.

Eyes: Corrosive. Severe irritant. Can cause pain, burns, necrosis and permanent injury (blindness). Vapors can cause lacrimation, conjunctivitis and corneal edema when absorbed into the tissue of the eye.

Inhalation:

Inhalation of vapors can cause irritation in the respiratory tract. Inhalation of mists and aerosols may severely damage contacted tissue and produce scarring.

Ingestion:

May cause irritation of mouth and throat and gastrointestinal tract.

Effects of chronic overexposure:

Repeated skin contact can cause sensitization, with itching, rashes, or swelling of the skin. May cause respiratory sensitization/asthmatic response. Repeated and /or prolonged exposures may result in: adverse skin effects (such as defatting, rash, irritation or corrosion), adverse eye effects (such as conjunctivitis or corneal damage), and adverse respiratory effects (cough, tightness of chest, shortness of breath).

Carcinogenicity -- OSHA regulated: No **ACGIH: No** **National Toxicology Program: No**

International Agency for Research on Cancer: No

Cancer-suspect constituent(s) : None

Medical conditions which may be aggravated by exposure:

Asthma. Chronic respiratory disease (e.g. Bronchitis, Emphysema). Eye disease. Skin disorders and allergies.

Other effects:

Repeated and/or prolonged exposure to low concentrations of vapor may cause: sore throat, eye irritation, nausea, faintness, headache, which are transient. Exposure to vapor may also cause minor transient edema of the corneal epithelium (blue-haze). This effect produces a blurring of vision against a general bluish haze and the appearance of halos around bright objects. The effect disappears spontaneously within a few hours of the end of exposure and leaves no sequelae.

4. FIRST AID MEASURES

First aid for eyes:

Immediately flush with clean water for at least 15 minutes while gently holding eyelids open. Get medical help as soon as possible.

First aid for skin:

Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

First aid for inhalation:

Remove patient to fresh air. Give oxygen or artificial respiration if needed. Prevent aspiration of vomit. Turn victims head to side. Seek medical advice.

First aid for ingestion:

Do NOT induce vomiting. Dilute with lots of milk or water (3-4 glasses). Never give anything by mouth to an unconscious person. Get immediate medical help.

5. FIRE FIGHTING MEASURES

General fire and explosion characteristics:

Ignition will give rise to a class B fire.

Extinguishing media:

☐ Water ☒ Carbon dioxide ☒ Dry chemical ☐ Foam ☒ Alcohol foam

Flash Point (°F): >240 **Method:** CC

Explosive limits in air (percent) -- Lower: n/d **Upper:** n/d

Special firefighting procedures:

Firefighters should wear self-contained breathing apparatus and sufficient protective gear (butyl rubber) to prevent all skin and eye contact with this material. Retain liquids from fire fighting for later disposal.

Unusual fire and explosion hazards:

Sudden reaction and fire may result if product is mixed with an oxidizing agent. Personnel in vicinity and downwind should be evacuated.

Hazardous products of combustion:

Acrid and toxic fumes with organic amines, ammonia, oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Spill control:

Avoid personal contact. Eliminate ignition sources. Ventilate area. Reduce vapor spreading with a water spray. Clean-up personnel should wear proper protective clothing and respirator.

Containment:

Dike, contain and absorb with clay, sand or other suitable (non-reactive) material.

Cleanup:

For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

Special procedures:

Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE

Handling precautions:

Avoid contact with skin, eyes, or clothing. Handle in well ventilated work space. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product. Do not use sodium nitrite or other nitrosating agents in formulations containing this product, cancer-causing nitrosamines could be formed.

Storage:

Keep away from acids and oxidizers. Store in a cool, dry, ventilated area in closed containers. Keep away from high temperatures and flames. Do not store in iron or other reactive metal containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ventilation :

General mechanical ventilation is adequate for occasional use. For prolonged or repeated use, local exhaust is recommended. Provide adequate ventilation to maintain air concentrations below established exposure levels.

Other engineering controls :

Have emergency shower and eye wash stations available.

Personal protective equipment

Eye and face protection:

Splash-proof eye goggles. In emergency situations, use eye goggles with full face shield.

Skin protection:

Chemical-resistant rubber (for example, neoprene, butyl rubber or nitrile) gloves and other protective gear as needed

to prevent skin contact.

Respiratory protection:
None needed in normal use with proper ventilation. In poorly ventilated areas or when creating a dust or mist, use NIOSH-approved ammonia vapor respirator as exposure levels dictate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	0.98	**Boiling point (°F):**	530.6
Melting point (°F):	n/d	**Vapor density (air = 1):**	5.03
Vapor pressure (mmHg):	.00752 mmHg at 70 °F	**Evaporation rate (butyl acetate = 1):**	<<1
VOC (grams/liter):	0	**Solubility in water:**	Completely
Percent volatile by volume:	0	**pH (5% solution or slurry in water):**	alkaline
Percent solids by weight:	100		

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid :
Extreme heat or open flame. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.

Incompatible materials:
Oxidizers, acids, reactive metals. Sodium or calcium hypochlorite. Nitrous acid, nitrites, nitrous oxide atm. Peroxides. Mat'ls reactive with hydroxyl compounds.

Hazardous products of decomposition:
Acrid and toxic fumes including organic amines, ammonia, oxides of nitrogen and carbon, nitric acid, nitrosamines. Aldehydes.

Conditions under which hazardous polymerization may occur:
Heat is generated when this hardener reacts with acids and epoxy resins. Mix only as instructed.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): > 2000 mg/kg (estimate)

Acute dermal effects: LD50 (rabbit): 805 mg/kg

TETA has been found to be toxic by skin absorption (ANSI Z129.1 1988). TETA is a severe irritant to the skin of a rabbit.

Acute inhalation effects: LC50 (rat): No data Exposure: hours.

Eye irritation:
TETA is a severe irritant to the eyes of a rabbit.

Subchronic effects:

No data.

Carcinogenicity, teratogenicity, and mutagenicity:

TETA has tested positive in screening tests for mutagenicity. TETA was found fetotoxic and teratogenic when fed to rats at 0.83% and 1.67% of diet. When applied dermally to the skin of pregnant guinea pigs, there was a 90% abortion rate or death of fetus with developmental anomolies.

Other chronic effects:

It has been generally observed in animal studies that aliphatic amines can cause changes in the lungs and heart. TETA has been found to produce liver and kidney damage and brain congestion in dermally exposed animals. Sensitization has occurred in laboratory animals after repeated exposures.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Triethylenetetramine	2500 mg/kg	805 mg/kg	n/d

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION

Ecotoxicity:

No data.

Mobility and persistence:

No data.

Environmental fate:

No data.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

Waste management recommendations:

If this material becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

Proper shipping name: Triethylenetetramine
Technical name : N/A
Hazard class : 8
UN number: 2259
Packing group: II
Emergency Response Guide no.: 153
IMDG page number: N/A
Other: N/A

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA
All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:
None

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Triethylenetetramine	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard -- Delayed health hazard -

Canadian regulations

WHMIS hazard class(es) : D1B; E
All components of this product are on the Domestic Substances List.

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:	Health	Flammability	Reactivity
	3*	1	1

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

CHOCKFAST ORANGE RESIN

This product appears in the following stock number(s):
1010U 1020U

Last revised: 04/16/02
Printed: 4/17/2002

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: CHOCKFAST ORANGE RESIN

General use: This information applies to the resin component of the two-part kit; handle freshly-mixed resin and hardener as recommended for the hardener. After curing, the product is not hazardous.

Chemical family: Epoxy resin

MANUFACTURER

ITW Philadelphia Resins
130 Commerce Dr.
Montgomeryville, PA 18936

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC): (800) 424-9300
Other Calls: (215) 855-8450

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS CONSTITUENTS **Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	ACGIH TLV	OSHA PEL	Other Limits
Crystalline silica		14808607	30-60	0.05 mg/m3	10/(%Q+2) mg	0.10 mg/m^3 (Canada)
Bisphenol A diglycidyl ether resin	DGEBPA	25068386	30-60	n/e	n/e	n/e
Epoxy phenol novalac resin		TRADE SECRET	1-5	n/e	n/e	n/e
Inert filler		TRADE SECRET	5-10	n/e	n/e	n/e

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit."n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance, form, odor: Orange viscous liquid with little odor.

WARNING! Eye and skin irritant. Potential skin sensitizer.

Potential health effects

Primary routes of exposure: ☒ Skin contact ☐ Skin absorption ☒ Eye contact ☐ Inhalation ☐ Ingestion

Symptoms of acute overexposure:

Skin: Moderate irritant. Contact at elevated temperatures can cause thermal burns which may result in permanent damage. May cause skin sensitization (itching, redness, rashes, hives, burning, swelling).

Eyes: Moderate irritant (stinging, burning sensation, tearing, redness, swelling). Contact at elevated temperatures can cause thermal burns which may result in permanent damage or blindness.

Inhalation:

The low vapor pressure of the resin makes inhalation unlikely in normal use. In applications where vapors (caused by high temperature) or mists (caused by mixing) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

Ingestion:

Acute oral toxicity is low. May cause gastric distress. Large oral doses may produce moderate depression and slight difficulty breathing.

Effects of chronic overexposure:

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure. Studies have shown bisphenol A diglycidyl ether resin to to be a sensitizing agent causing allergic contact dermititis.

Carcinogenicity -- OSHA regulated: No **ACGIH: No** **National Toxicology Program: Yes**

International Agency for Research on Cancer: Yes

Cancer-suspect constituent(s) : Silica

Medical conditions which may be aggravated by exposure:

Preexisting eye and skin disorders. Development of preexisting skin or lung allergy symptoms may increase.

Other effects:

See section 11.

4. FIRST AID MEASURES

First aid for eyes:

Flush eye with clean water for at least 20 minutes while gently holding eyelids open, lifting upper and lower lids. Get immediate medical attention.

First aid for skin:

Immediately remove contaminated clothing and excess contaminant. Flush skin with water for at least 15 minutes. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

First aid for inhalation:

Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.

First aid for ingestion:

Do NOT induce vomiting. Rinse mouth out with water, then sip water to remove taste from mouth. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips (if sitting) or to the side (if lying down) to prevent aspiration. Get medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing media:

☐ Water ☒ Carbon dioxide ☒ Dry chemical ☒ Foam ☐ Alcohol foam

Flash Point (°F): >400 **Method:** PMCC

Explosive limits in air (percent) -- Lower: n/d **Upper:** n/d

Special firefighting procedures:

Material will not burn unless preheated. Do not enter confined space without full bunker gear. Firefighters should wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.

Unusual fire and explosion hazards:

Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization. Personnel in vicinity and downwind should be evacuated.

Hazardous products of combustion:

When heated to decomposition it emits fumes of Cl- , carbon monoxide, other fumes and vapors varying in composition and toxicity.

6. ACCIDENTAL RELEASE MEASURES

Spill control:

Avoid personal contact. Eliminate ignition sources. Ventilate area.

Containment:

Dike, contain and absorb with clay, sand or other suitable material.

Cleanup:

For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

Special procedures:

Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE

Handling precautions:

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities.
Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles.
Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against silica dust during sanding/grinding of cured product.

Storage:

Store in a cool, dry area away from high temperatures and flames. Keep containers closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ventilation :

Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits (or to the lowest feasible levels when limits have not been established). Although good general mechanical ventilation is usually adequate for most industrial applications, local exhaust ventilation is preferred (see ACGIH - Industrial Ventilation). Local exhaust may be required for confined areas (see OSHA 1910.146).

Other engineering controls :

Have emergency shower and eye wash available.

Personal protective equipment

Eye and face protection:

Chemical goggles if liquid contact is likely, or Safety glasses with side shields.

Skin protection:

Chemical-resistant gloves (i.e. butyl) and other gear as required to prevent skin contact.

Respiratory protection:

None needed in normal use with proper ventilation. In poorly ventilated areas use NIOSH approved organic vapor cartidges respirator for uncured resin, dust/particle respirators during grinding/sanding operations for cured resin, or

fresh airline respirator as exposure levels dictate (see OSHA 1910.134).

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.64	**Boiling point (°F):**	>500
Melting point (°F):	n/d	**Vapor density (air = 1):**	>1
Vapor pressure (mmHg):	0.03 mm Hg at 171 °F	**Evaporation rate (butyl acetate = 1):**	<<1
VOC (grams/liter):	< 1	**Solubility in water:**	Negligible
Percent volatile by volume:	0	**pH (5% solution or slurry in water):**	neutral
Percent solids by weight:	100		

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid :
Open flame and extreme heat

Incompatible materials:
Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

Hazardous products of decomposition:
Oxides of carbon; aldehydes, acids and other organic substances may be formed during combustion or elevated temperature (>500 deg F) degradation.

Conditions under which hazardous polymerization may occur:
Heat is generated when resin is mixed with curing agents; Run-a-way cure reactions may char and decompose the resin, generating unidentified fumes and vapors which may be toxic.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): Not available.

Acute dermal effects: LD50 (rabbit): Not available.

Acute inhalation effects: LC50 (rat): Not available. Exposure: hours.

Eye irritation:
Not available.

Subchronic effects:
No data available.

Carcinogenicity, teratogenicity, and mutagenicity:

1) MUTAGENICITY: Liquid resins based on diglycidyl ether of Bisphenol A (DGEBPA), have proved to be inactive when tested by in vivo mutagenicity assays. These resins have shown activity in in vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells. The significance of these tests to man is unknown. 2) CARCINOGENICITY: Recent 2-year bioassays in rats and mice exposed by the dermal route to DGEBPA yielded no evidence of carcinogenicity to the skin or any other organs. This study clarifies prior equivocal results from a 2-year mouse skin painting study, which were suggestive, but not conclusive, for weak carcinogenic activity. 3) The International Agency for Research on Cancer (IARC) concluded that DGEBPA is not classifiable as a carcinogen (IARC group 3), that is human and animal evidence of carcinogenicity is inadequate. Also, crystalline silica has been shown to have in vitro mutagenic effects in mammalian cells. Trade secret diluent showed positive mutagenicity in vitro in the Salmonella/mammalian microsome assay with and without metabolic activation, and in the point mutation assay with mouse lymphoma cells.

Other chronic effects:

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure. Studies have shown bisphenol A diglycidyl ether resin to cause allergic contact dermititis.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Crystalline silica	n/d	n/d	n/d
Bisphenol A diglycidyl ether resin	11.4 g/kg	>20 ml/kg	no deaths
Epoxy phenol novalac resin	> 5000 mg/kg	> 6000 mg/kg	> 1.7 mg/L
Inert filler	n/d	n/d	n/d

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION

Ecotoxicity:

No data available.

Mobility and persistence:

No data available.

Environmental fate:

No data available.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

Waste management recommendations:

If this resin becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations. Incineration is the preferred method of disposal.

14. TRANSPORT INFORMATION

Proper shipping name: Non-regulated
Technical name : N/A
Hazard class : N/A
UN number: N/A
Packing group: N/A
Emergency Response Guide no.: N/A
IMDG page number: N/A
Other: N/A

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA
All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:
None

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Crystalline silica	No	No	0.0	Not required
Bisphenol A diglycidyl ether resin	No	No	0.0	Not required
Epoxy phenol novalac resin	No	No	0.0	Not required
Inert filler	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard -- Delayed health hazard -

Canadian regulations

WHMIS hazard class(es) : D2B; D2A

Regulatory notes:

HMIRC claim registry number 4078 granted 3/19/99.

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:	Health	Flammability	Reactivity
	2*	1	1

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.