

IMPAX WATER BASED GRAY PRIMER HARDENER

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

2480U 2481U

Last revised: 07/08/03

Printed: 10/4/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** IMPAX WATER BASED GRAY PRIMER HARDENER**General use:** The following information applies to the hardener component of the two-part kit and to freshly mixed resin and hardener. After curing, this product is not hazardous.**Chemical family:** Polymercaptan/polyamine mixture**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
Benzyl alcohol	BZOH	100516	> 30	n/e	n/e	10 ppm (AIHA)
Isophorone diamine		2855132	< 30	n/e	n/e	n/e
2,4,6-Tris(Dimethylaminomethyl)phenol	DMP	90722	1-10	n/e	n/e	n/e
Adduct		*	< 45	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: Amber liquid with characteristic odor.

DANGER! Corrosive. Eye, skin and respiratory irritant. Toxic by skin absorption. May cause skin sensitization. May injure lung.
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Potential health effects

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

Symptoms of acute overexposure:

Skin: Corrosive. Severe irritation (dryness, defatting, itching, rash), pain, burns and permanent damage. Product is absorbed through the skin and may cause nausea, headache and death unless treated promptly. Potential sensitizer.

Eyes: Corrosive. Severe irritation, pain or burns; may cause permanent eye injury (blindness). Vapors can cause lacrimation, conjunctivitis, and corneal edema.

Inhalation:

Corrosive. Can cause irritation of respiratory tract and mucous membranes. Over exposure to fumes or vapors may cause sensitization, asthma, delayed lung injury and/or chemical pneumonia. May cause nausea and vomiting. Inhalation of vapors, aerosols or mists may severely damage contacted tissue and produce scarring.

Ingestion:

May cause burns of mouth and throat. May cause fatigue, muscle weakness, gastrointestinal irritation, nausea, vomiting and diarrhea.

Effects of chronic overexposure:

Prolonged or severe overexposure to DMP vapor can cause delayed lung damage and chemical pneumonia. Repeated skin contact or inhalation may cause sensitization, with asthmatic or allergic symptoms on subsequent exposure (rash, defatting, nausea, headaches). Repeated or prolonged exposure may cause adverse respiratory effects (cough, tightness of chest, shortness of breath, dryness of nasal passages, sore throat), eye effects (conjunctivitis, corneal damage), or skin effects (rash, irritation, corrosion). Repeated or prolonged overexposure may result in nervous system disorders (narcosis, behavioral changes, or decreased motor function) and muscular dysfunction. Effects from inhalation of vapors may be delayed.

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:

May aggravate existing skin disorders and allergies, eye disease, and respiratory conditions (i.e. asthma, bronchitis, emphysema). Neurological disorders.

Other effects:

Corneal edema may give rise to a perception of "blue haze" or "fog" around lights which is transient and has no known residual effect.

4. FIRST AID MEASURES**First aid for eyes:**

Flush eye with clean water for at least 15 minutes while gently holding eyelids open. Get immediate medical attention.

First aid for skin:

Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Do not apply grease or ointments. 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. Give 3-4 glasses of water or milk if conscious. Consult a physician. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

General fire and explosion characteristics:

Class IIIB.

Extinguishing media:

Water

Carbon dioxide

Dry chemical

Foam

Alcohol foam

Flash Point (°F): >200

Method: estimate

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

Special firefighting procedures:

Firefighters should wear self-contained breathing apparatus and full protective gear (butyl rubber). Keep containers cool with water spray.

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. Retain expended liquids from firefighting for later disposal.

Hazardous products of combustion:

Oxides of carbon, oxides of sulfur, oxides of nitrogen, ammonia. Toxic smoke and vapors may form during combustion.

6. ACCIDENTAL RELEASE MEASURES

Spill control:

Avoid personal contact. Eliminate ignition sources. Ventilate area. Reduce vapor spreading with a water spray.

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. Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing.

Special procedures:

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

7. HANDLING AND STORAGE

Handling precautions:

Avoid breathing vapors. Use only in well ventilated work space. 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 nuisance dust during sanding/grinding of cured product.

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.

Other engineering controls :

Have emergency shower and eye wash stations available.

Personal protective equipment

Eye and face protection:

Full face shield with chemical goggles underneath.

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 organic vapor respirator as exposure levels dictate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.02	Boiling point (°F):	> 200
Melting point (°F):	n/d	Vapor density (air = 1):	n/d
Vapor pressure (mmHg):	< 11 mmHg at 70 °F	Evaporation rate (butyl acetate = 1):	n/d
VOC (grams/liter):	n/d	Solubility in water:	Moderate
Percent volatile by volume:	n/d	pH (5% solution or slurry in water):	alkaline
Percent solids by weight:	n/d		

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. Halogenated organic compounds. Peroxides. Materials reactive with hydroxyl compounds.

Hazardous products of decomposition:

Acrid and toxic fumes including organic amines, ammonia, oxides of nitrogen and carbon, nitric acid. Aldehydes.

Conditions under which hazardous polymerization may occur:

When this hardener is mixed with an epoxy resin heat is generated; be careful when mixing more than an ounce or so.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): > 1600 mg/kg (estimate)

Acute dermal effects: LD50 (rabbit): > 1200 mg/kg (estimate)

Components are corrosive to the skin of a rabbit.

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

Exposure: 0 hours.

Eye irritation:

Not available.

Subchronic effects:

Exposures to animal tests of component(s) in product have caused abnormalities on the central nervous system.

Carcinogenicity, teratogenicity, and mutagenicity:

Not available.

Other chronic effects:

Components have been shown to cause allergic sensitization in humans.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Benzyl alcohol	1230 mg/kg	2000 mg/kg	> 2000 ppm
Isophorone diamine	1030 mg/kg	n/d	n/d
2,4,6-Tris(Dimethylaminomethyl)phenol	1670 mg/kg	1400 mg/kg	> 0.5 mg/L
Adduct	n/d	n/d	n/d

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION**Ecotoxicity:**

Not available.

Mobility and persistence:

Not available.

Environmental fate:

Not available.

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: Amines, liquid, corrosive, n.o.s.
Technical name : Isophoronediamine, Tris-2,4,6-(dimethylaminomethyl)phenol
Hazard class : 8
UN number: 2735
Packing group: III
Emergency Response Guide no.: 153
IMDG page number: N/A
Other:

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
Benzyl alcohol	No	No	0.0	Not required
Isophorone diamine	No	No	0.0	Not required
2,4,6-Tris(Dimethylaminomethyl)phenol	No	No	0.0	Not required
Adduct	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; E

16. OTHER INFORMATION

**Hazardous Materials
Identification System (HMIS)
ratings:**

Health**3*****Flammability****1****Reactivity****0**

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.

IMPAX WATER BASED GRAY PRIMER RESIN

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

2480U 2481U

Last revised: 06/11/04

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** IMPAX WATER BASED GRAY PRIMER 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	1-10	0.05 mg/m ³	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
Alkyl Glycidyl Ether		68609972	1-10	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: 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. May cause skin sensitization (rashes, hives).**Eyes:** Moderate irritant. Contact at elevated temperatures can cause thermal burns.

Inhalation:

The low vapor pressure of the resin makes inhalation unlikely in normal use.

Ingestion:

Acute oral toxicity is low. May cause gastric distress.

Effects of chronic overexposure:

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure.

Carcinogenicity -- OSHA regulated: No

ACGIH: No

National Toxicology Program: Yes

International Agency for Research on Cancer: Yes

Cancer-suspect constituent(s) : Respirable crystalline 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 15 minutes while gently holding eyelids open. Get immediate medical attention.

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. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.

First aid for ingestion:

Do NOT induce vomiting. Give two glasses of water to dilute if patient is conscious. Get medical attention.

Note to physician :

In general, emesis induction is unnecessary in high viscosity, low volatility products, e.g., neat epoxy resins.

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.

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering controls****Ventilation :**

Local exhaust ventilation is preferred although good general mechanical ventilation is usually adequate for most industrial applications. Local exhaust is recommended for confined areas.

Other engineering controls :

Have emergency shower and eye wash available.

Personal protective equipment**Eye and face protection:**

Safety glasses with side shields.

Skin protection:

Chemical-resistant gloves and other gear as required to prevent skin contact.

Respiratory protection:

None required at normal handling temperatures and conditions. Use NIOSH approved organic vapor cartridges for uncured resin and dust/particle respirators during grinding/sanding operations of cured resin as exposure levels dictate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.1-1.3	Boiling point (°F):	n/d
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):	< 25	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): n/d

Acute dermal effects: LD50 (rabbit): n/d

Acute inhalation effects: LC50 (rat): n/d

Exposure: 8 hours.

Subchronic effects:

No data available.

Carcinogenicity, teratogenicity, and mutagenicity:

1) **MUTAGENICITY:** Liquid resins based on diglycidyl ether of Bisphenol A (DGEBA), 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 DGEBA 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 DGEBA is not classifiable as a carcinogen (IARC group 3), that is human and animal evidence of carcinogenicity is inadequate. ALKYL GLYCIDYL ETHER RESIN: Negative in vivo mutagenicity and positive in vitro mutagenicity tests.

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 dermatitis.

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
Alkyl Glycidyl Ether	>19.2 g/kg	> 4.5 g/kg	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.

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/

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
Alkyl Glycidyl Ether	No	No	0.0	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

16. OTHER INFORMATION

**Hazardous Materials
Identification System (HMIS)
ratings:**

Health
2*

Flammability
1

Reactivity
1

Revisions for this issue:

MSDS section	Revisions
3	Chemical constituents
11	Toxicology

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.