

SAFETY DATA SHEET

Poly-Fiber Epoxy Primer White or Green

1 – IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING

PRODUCT NAME: **Poly-Fiber Epoxy Primer White or Green**
PRODUCT NUMBER: EP-420W or EP-420G
RECOMMENDED USE: Aircraft Coatings and thinners
RESTRICTIONS ON USE: Not applicable
SUPPLIER: Poly-Fiber, Inc.
P.O. Box 3129, Riverside, CA 92519, USA
4343 Fort Drive, Riverside, CA 92509, USA
(951) 684-4280
(951) 809-7144
(760) 782-1947
EMERGENCY TELEPHONE: (800) 424-9300 (Chemtrec- US)
(703) 527-3887 (International – Call Collect)

2 - HAZARDS IDENTIFICATION

GHS Hazard Category

Flammable liquid- Category 2
Eye Irritation - Category 2A
Skin Irritation- Category 2
Respiratory Irritation- Category 3
Specific target organ toxicity (single exposure) – Category 3, Central Nervous System H336

Label Elements

Pictograms



Signal Word

DANGER

Hazard Statements

⚠ WARNING: This product can expose you to chemicals including Ethylbenzene, which is known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www. P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Highly flammable. Irritating to eyes and skin

May cause drowsiness or dizziness

Harmful: danger of serious damage to health by prolonged exposure through inhalation

Possible risk of harm to the unborn child

Harmful: may cause lung damage if swallowed

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Store in a well-ventilated place. Keep container tightly closed. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Vapors may cause drowsiness and dizziness.

Response

INHALATION:

Move the victim to a fresh air place immediately. Get medical attention if discomforts persist.

INGESTION:

Rinse mouth with clean water immediately. DO NOT induce vomiting. Get medical attention immediately. If vomiting occurs, keep the victim's head low so that vomits from the stomach will not enter the lungs.

SKIN CONTACT:

Remove contaminated clothing and flush the affected skin areas with clean water for at least 15 minutes. Get medical attention if discomforts persist.

EYES CONTACT:

Make sure all contact lenses are removed before flushing the eyes with eye lids open with clean water for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Storage

Store in a well-ventilated Place. Keep container tightly closed. Keep cool. Store in a locked cabinet, cage or room.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

CLASSIFICATION (1999/45) XI, XN, F, R11, R36, R66, R67

This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Highly flammable. Irritating to eyes and skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed. Vapors may cause drowsiness and dizziness.

CLASSIFICATION (1999/45) XI, XN, F, R11, R36, R37, Repr. Cat 3, R67

3 – COMPOSITION /INFORMATION ON INGREDIENTS

Name	EC No.	CAS No.	Content %	Classification (67/548/EEC)
Methyl Ethyl Ketone	201-159-0	78-93-3	30-40%	XI, F, R11, R36, R66, R67
Polymer of Epichlorohydrin and Bisphenol-A	Not Established	25036-25-3	10-20%	XI, R43, R36/37/38, S36/37, S36, S26
Toluene	203-625-9	108-88-3	0-10%	XN, F, R11, R20, S16, S25, S29, S33
DiAcetone Alcohol	204-626-7	123-42-2	0-10%	XI, R36, S24/25
Xylenes (o-, m-, p- isomers)	215-535-7	1330-20-7	0-10%	XN, F, R10, R21, R36/38, S2, S36/37, S46
Ethylbenzene	202-849-4	100-41-4	0-10%	XN, F, R11, R20, S16, S24/25, S29

The Full Text for all R-Phrases and S-Phrases is displayed in Section 15

COMPOSITION COMMENTS

The data shown are in accordance with the latest EC Directives

Two Opti-color colorants contain lead pigments: CY Medium Chrome Yellow and MO Molybdate Orange. One colorant, TW Titanium White, contains silica. When any of these three colorants are used: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

4- FIRST AID MEASURES

INHALATION:

Move the victim to a fresh air place immediately. Get medical attention if discomforts persist.

INGESTION:

Rinse mouth with clean water immediately. DO NOT induce vomiting. Get medical attention immediately. If vomiting occurs, keep the victim's head low so that vomits from the stomach will not enter the lungs.

SKIN CONTACT:

Remove contaminated clothing and flush the affected skin areas with clean water for at least 15 minutes. Get medical attention if discomfort persists.

EYES CONTACT:

Make sure all contact lenses are removed before flushing the eyes with eye lids open with clean water for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

5- FIRE FIGHTING PROCEDURES**EXTINGUISHING MEDIA:**

Foam, CO₂, Dry Chemical, Water Fog

SPECIAL FIREFIGHTING PROCEDURES:

Do not use a direct stream of water. Product may float and can be reignited on the surface of the water. Do not enter a confined area without full bunker gear including a positive-pressure NIOSH-approved self-contained breathing apparatus. Decomposition products may form toxic materials.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Never use welding or cutting torch on or near drum (even empty) because residue or product can ignite explosively. Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by pilot lights, flames and other ignition sources at locations distant from the material handling point. Flammable material.

6-ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS:**

Wear protective clothing as described in Section 8.

ENVIRONMENTAL PRECAUTIONS:

Spillages or uncontrolled discharges into watercourses must immediately be alerted to Environmental Agency or other appropriate regulatory authority.

SPILL CLEANUP METHODS:

Keep combustibles away from spilled material. Extinguish all ignition sources. Avoid sparks, open flames, and smoking. Ventilate. Absorb in vermiculite, dry sand, or earth and place into containers for disposal.

7-HANDLING AND STORAGE**USAGE PRECAUTIONS:**

Keep away from heat, sparks and open flames. Avoid spilling, skin and eyes contact. Use with adequate ventilation and avoid excessive exposure to solvent vapors. Use approved respirator if air contamination exceeds the accepted level.

STORAGE PRECAUTIONS:

FLAMMABLE/Combustible. Keep away from oxidizers, open flames and other ignition sources. Keep unused contents in original container and tightly closed lids. Store in a cool, dry and well-ventilated place and at an ambient Temperature not to exceeding above 120° F.

STORAGE CLASS:

FLAMMABLE liquid storage.

8-EXPOSURE CONTROL/PERSONAL PROTECTION

Name	Workplace Exposure Limits	Remarks
Methyl Ethyl Ketone	ACGIH: 200ppm TWA; 300ppm STEL NIOSH: 200ppm TWA; 590 mg/m ³ TWA; 3000ppm IDLH OSHA –Final PELs: 200ppm TWA; 590 mg/m ³ TWA	Consult local authorities for acceptable exposure limits.
Toluene	ACGIH: 20ppm TWA NIOSH: 100 ppm TWA; 375 mg/m ³ TWA 500 ppm IDLH OSHA-Final PELs: 200 ppm TWA; 300 ppm Ceiling	Same As Above
DiAcetone Alcohol	ACGIH: 50 ppm TWA NIOSH: 50 ppm TWA, 240 mg/m ³ TWA, 1800 ppm IDLH OSHA-Final PELs: 50 ppm TWA, 240 mg/m ³ TWA	Same As Above
Polymer of Epichlorohydrin and Bisphenol-A	ACGIH: No component of this product present at levels greater than or equal to	Same As Above

	0.1% is identified as a carcinogen or potential carcinogen NIOSH: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP OSHA-Final PELs: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen	
Xylenes (o-, m-, p- isomers)	ACGIH: 100 ppm TWA; 150 ppm STEL NIOSH: None listed OSHA-Final PELs: 100 ppm TWA; 435 mg/m3 TWA	Same As Above
Ethylbenzene	ACGIH: 100 ppm TWA; 125 ppm STEL NIOSH: 100 ppm TWA; 435 mg/m3 TWA 800 ppm IDLH (10% LEL) OSHA-Final PELs: 100 ppm TWA; 435 mg/m3 TWA	

NOTICE:

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.



PROTECTIVE EQUIPMENTS:
PROCESS CONDITIONS:
ENGINEERING MEASURES:

RESPIRATORY EQUIPMENT:
HANDPROTECTION:
EYE PROTECTION:
OTHER PROTECTION:
HYGIENE MEASURES:

Provide eyewash station.

Provide adequate ventilation. Fully equipped spray booth is recommended to ensure the workers legal exposure limits are not exceeded.

Wear respirator with appropriate cartridge for organic solvents and chemicals.

Wear approved gloves such as Neoprene, Nitrile or Rubber types.

Wear splash-proof goggles.

Wear appropriate clothing to prevent any possible skin contact.

DO NOT SMOKE IN THE WORK AREA. Wash at the end of each work shift and before eating, drinking or smoking. Promptly remove contaminated clothing.

9- PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Opaque Liquid
COLOR:	Several colors
ODOR:	Aromatic solvents
BOILING POINT:	175.4- 315° F
RELATIVE DENSITY:	1.23 g/mL
VAPOR DENSITY:	Heavier than air
FLASH POINT:	20° F (-7° C) (Closed Cup)
FLAMMABILITY LIMITS:	N/D (Lower%)
SOLUBILITY VALUE (g/100g H ₂ O @ 20°C):	Insoluble
VOLATILE ORGANIC COMPOUND (VOC):	422 g/L

10- STABILITY AND REACTIVITY

STABILITY:

Stable

CONDITIONS TO AVOID:

Heat and fires. Ignition sources

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong alkalines or strong oxidizers. This material may dissolve some plastics, rubber compounds or coatings.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Hydrogen chloride and very small amounts of phosgene and chlorine.

HAZARDOUS POLYMERIZATION:

N/A

11-TOXICOLOGICAL INFORMATION

Methyl Ethyl Ketone (CAS# 78-93-3):LD50/rabbit/skin/draize test = 500mg/24H moderate; LC50/mouse/inhalation = 32mg/m³/4H; Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP or OSHA.

Toluene (CAS# 108-88-3): ACGIH: A4-Not Classifiable as a Human Carcinogen; IARC: Group 3 carcinogen; No other toxicological information available

DiAcetone Alcohol (CAS# 123-42-2) : Routes of Entry: Eye contact. Inhalation. Ingestion. Toxicity to Animals: Acute oral toxicity (LD50): 3959 mg/kg [Mouse]. Acute dermal toxicity (LD50): 13500 mg/kg [Rabbit]. Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes. Other Toxic Effects on Humans: Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator). Special Remarks on Toxicity to Animals: Not available.Special Remarks on Chronic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans: Not available.

Poly(Bisphenol A-co-epichlorohydrin), glycidyl end-capped (CAS#25036-25-3) : Acute toxicity :no data available.

Skin corrosion/irritation : no data available. **Serious eye damage/eye irritation:** no data available

Respiratory or skin sensitization: May cause allergic skin reaction. **Germ cell mutagenicity :** no data available

Carcinogenicity:

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available. **Specific target organ toxicity - single exposure (Globally Harmonized System):**

no data available. **Specific target organ toxicity - repeated exposure (Globally Harmonized System)** no data available

Aspiration hazard : no data available. **Potential health effects: Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. **Skin:** May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Xylene (Mixed Isomers) (CAS#1330-20-7): LD50/LC50: Draize test, rabbit, eye: 87 mg Mild; Draize test, rabbit, eye: 5 mg/24H Severe; Draize test, rabbit, skin: 100% Moderate; Draize test, rabbit, skin: 500 mg/24H Moderate; Inhalation, rat: LC50 = 5000 ppm/4H; Oral, mouse: LD50 = 2119 mg/kg; Oral, rat: LD50 = 4300 mg/kg; Skin, rabbit: LD50 = >1700 mg/kg; Carcinogenicity: Not listed by ACGIH, IARC, NTP, or CA Prop 65. Epidemiology: 175 workers were exposed to 21 ppm of xylene for 7 years. Subjective symptoms such as anxiety, forgetfulness, inability to concentrate and dizziness were reported. Xylenes accounted for >70% of the total exposure. Liver & kidney effects were not reported. Teratogenicity: No increased incidence of birth defects was reported in a study of lab workers exposed to xylene during early pregnancy. Exposure to other solvents and chemicals also occurred. An increased incidence of spontaneous abortions was reported. Animal information suggests that xylene is not teratogenic or embryotoxic at exposure levels that are not harmful to the mother. Reproductive Effects: An increase in menstrual disorders has been reported in women exposed to organic solvents such as benzene, toluene, and xylenes. It is not possible to attribute these effects to xylenes in particular. Mutagenicity: Xylene does not appear to be a mutagen. Neurotoxicity: Xylene may be ototoxic (damages hearing or enhances sensitivity to noise) in chronic occupational exposures, probably from a neurotoxic mechanism.

Ethyl Benzene (CAS#100-41-4). Acute Dermal LD50 Rabbit: 17800 mg/kg, Acute Oral LD50 Rat: 3500 mg/kg. Carcinogenicity: ACGIH- A3 Confirmed animal carcinogen with unknown relevance to humans. IARC Monographs: 2B possibly carcinogenic to humans. Skin corrosion/irritation: Causes skin irritation. Epidemiology: No epidemiological data is available for this product.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Neurological effects: High vapor/aerosol concentrations (attainable only at elevated temperatures) may cause central nervous system effects such as dizziness, drowsiness or headaches. Central and/or peripheral nervous system damage. Reproductive effects Contains no ingredient listed as toxic to reproduction. Teratogenicity: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.

12-ECOLOGICAL INFORMATION

Methyl Ethyl Ketone (CAS#78-93-3): Ecotoxicity : Fish/Fathead Minnow/LC50 = 3220mg/l; Environmental : Substance evaporates in water with T1/2=3D (rivers) to 12D (lakes); Physical : Substance photo degrades in air with T1/2=2.3 days.

Toluene (CAS#108-88-3): Ecotoxicity : No data available; Environmental : From soil, substance evaporates and is microbially biodegraded. In water, substance volatilizes and biodegrades; Physical: Photo chemically produced hydroxyl radicals degrade substance.

DiAcetone Alcohol (CAS#123-42-2) : Ecotoxicity: Not available. BOD5 and COD: Not available. Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic. Special Remarks on the Products of Biodegradation: Not available.

Poly(Bisphenol A-co-epichlorohydrin), glycidyl end-capped (CAS#25036-25-3) : Toxicity: no data available

Persistence and degradability: No data available Bioaccumulative potential: no data available

Mobility in soil: no data available **PBT and vPvB assessment:** no data available

Other adverse effects: no data available

Xylene (Mixed Isomers) (CAS# 1330-20-7): Ecotoxicity: Fish: Rainbow trout: LC50 = 13.5 mg/L; 96 Hr; Unspecified Fish: Goldfish: LD50 = 13 mg/L; 24 Hr; Unspecified Fish: Fathead Minnow: LC50 = 46 mg/L; 1 Hr; Static bioassay Acute and long-term toxicity to fish and invertebrates: LD50 for goldfish is 13 mg/L/24 Hr.Cas#1330-20-7:LC50(96Hr.) rainbow trout = 8.05 mg/L, Static condition;LC50(96Hr.) fathead minnow = 16.1 mg/L, flow-through conditions; LC50(96Hr.) bluegill = 16.1 mg/L, flow-through;EC50 (48 Hr.) water flea = 3.82 mg/L, flow-through conditions;EC50(24 Hr.) photo bacterium phosphoreum = 0.0084 mg/L, Microtox test.

Environmental: In air, xylenes degrade by reacting with photo chemically produced hydroxyl radicals. In soil it will volatilize and leach into groundwater. Little bioconcentration is expected.

Physical: ATMOSPHERIC FATE: According to a model of gas/particle partitioning of semi volatile organic compounds in the atmosphere, xylene, which has an experimental vapor pressure of 7.99 mm Hg at 25 deg C, will exist solely as a vapor in the ambient atmosphere. Vapor-phase xylene is degraded in the atmosphere by reaction with photo chemically-produced hydroxyl radicals; the atmospheric lifetime of xylene is about 14-26 hours. Ambient levels of xylene are detected in the atmosphere due to large emissions of this compound.

Ethyl Benzene (CAS#100-41-4): EC50 Water flea (Daphnia magna): 1.37 mg/l 48.00 hours. LC50 Rainbow trout, Donaldson trout (Oncorhynchus mykiss): 4.2 mg/l 96.00 hours. Ecotoxicity: Toxic to aquatic life. Environmental effects: Bioaccumulation is unlikely to be significant because of the low water solubility of this product. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13 – DISPOSAL CONSIDERATIONS

Hazardous wastes should be sent to a RCRA approved incinerator or disposed of in a RCRA approved waste facility. Dispose of container and unused contents in accordance with federal, state and local requirements.

I certify that all chemical substances in this shipment comply with all applicable rules or orders under TSCA and that I am not offering a chemical substance for entry in violation of TSCA or any applicable rule or order under TSCA.

14 – TRANSPORT INFORMATION

DOT / ADR / RID Classification:

DOT PROPER SHIPPING NAME: PAINT

PRIMARY HAZARD CLASS/DIVISION: 3

UN/UA NUMBER: UN1263

PACKING GROUP: II

IMDG and ADN Classification:

IMDG PROPER SHIPPING NAME: PAINT

IMDG UN CLASS: 3

IMDG UN NUMBER: UN1263

IMDG PACKING GROUP: II

IMDG LABEL: FLAMMABLE LIQUID

IMDG VESSEL STOWAGE: B

Air shipping this product is not advised and if done must be handled by a certified carrier according to IATA rules.



GHS LABEL:

DANGER

HIGHLY FLAMMABLE LIQUID AND VAPOR. VAPOR HARMFUL. CAUSES SERIOUS EYE IRRITATION. CAUSES SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. HARMFUL OR FATAL IF SWALLOWED AND ENTERS AIRWAYS.

Refer to SDS for additional information on safe handling / use. - Keep out of reach of children. For Industrial Use Only.

Contains: Methyl Ethyl Ketone (30-40%), Polymer of Epichlorhydrin and Bisphenol A (10-20%), Toluene (0-10%), DiAcetone Alcohol (0-10%), Xylene (0-10%), and Ethylbenzene (0-10%). This product contains one or more chemicals known to the State of California to cause cancer, birth defects, and/or other reproductive harm.

Hazards: Highly flammable liquid and vapor. Suspected of damaging fertility or the unborn child. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure: Inhalation - neuropsychological effects, auditory dysfunction and effects on color vision. May be fatal if swallowed and enters airways.

Precautionary Statement(s): Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Store in a well-ventilated place. Keep container tightly closed. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist/vapors/spray. Use only outdoors or in a well-ventilated area.

First Aid: Inhalation - Move person to fresh air. If symptoms occur obtain medical attention. Skin Contact - Wash affected skin with soap and water. If symptoms occur obtain medical attention. Eye Contact - If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If symptoms occur obtain medical attention. Ingestion - Do not induce vomiting. Drink one glass of water. If symptoms occur obtain medical attention.

15-REGULATORY INFORMATION

⚠️WARNING: This product can expose you to chemicals including Ethylbenzene, which is known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www. P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Hazards: Highly flammable liquid and vapor. Suspected of damaging fertility or the unborn child. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure: Inhalation - neuropsychological effects, auditory dysfunction and effects on color vision. May be fatal if swallowed and enters airways.

Precautionary Statement(s): Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Store in a well-ventilated place. Keep container tightly closed. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist/vapours/spray. Use only outdoors or in a well-ventilated area.

CODES:



XI and XN



F

XI=Irritant
XN=Harmful
F=Highly Flammable

R-Phrases:

R10: Flammable
R11: Highly Flammable
R20: Harmful by inhalation
R21: Harmful in contact with skin
R36: Irritating to eyes
R36/38: Irritating to eyes and skin
R36/37/38: Irritating to eyes, respiratory system and skin
R43: May cause sensitization by skin contact
R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness

S-Phrases:

S2: Keep out of the reach of children
S16: Keep away from sources of ignition - No smoking
S24/25: Avoid contact with skin and eyes
S25: Avoid contact with eyes
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

- S29: Do not empty into drains
- S33: Take precautionary measures against static discharges
- S36: Wear suitable protective clothing
- S36/37: Wear suitable protective clothing and gloves
- S46: If swallowed, seek medical advice immediately and show this container or label

16- DISCLAIMER

Above information is based on data supplied to us and is believed to be correct. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since the data made available subsequent to the date hereof may suggest modifications of the information, we do not assume responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. It is the user's obligation to determine the safe use of it.