Sterling® U-475 EH

SECTION 1. IDENTIFICATION

Product name : Sterling® U-475 EH

Manufacturer or supplier's details

Company : ELANTAS PDG, INC.
5200 North 2nd Street
St. Louis MO 63147
Telephone : (314) 621-5700
Visit our web site : www.elantas.com
E-mail address : Todd.Thomas@altana.com
Emergency telephone number : INFOTRAC - 1-800-535-5053

Recommended use of the chemical and restrictions on use

Recommended use : Electrical Insulation

Restrictions on use : Refer to Section 15 for any restrictions that may apply

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitisation : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)

Specific target organ toxicity - repeated exposure : Category 2 (Kidney, Liver)

GHS Label element

Hazard pictograms :

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Modified Epoxy Resin Solution

Hazardous components

Component	CAS-No.	Concentration (%)
Epoxy Resin	25036-25-3	>= 38 - < 39
Epoxy Resin	25068-38-6	>= 20 - < 21
Xylene	1330-20-7	>= 19 - < 20
1-Methoxy-2-propanol acetate	108-65-6	>= 6 - < 7
Glycol ether	111-90-0	>= 5 - < 6
Ethylbenzene	100-41-4	>= 4 - < 5
1-Methoxy-2-propanol	107-98-2	>= 2 - < 3
Epoxy accelerator	75-23-0	>= 1 - < 2
Toluene	108-88-3	>= 0 - < 1

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.

Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO_2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth,

vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Absorbent paper or other organic material used for cleaning up resin is a fire hazard, as heat and spontaneous combustion can occur, particularly if the resin was catalyzed. Catalyzed resin can generate hazardous exothermic heat if allowed to polymerize in a mass. All soiled or waste materials must be water soaked, and kept in a closed bin until disposed of.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
The chemical reaction that cures mixed epoxy is exothermic (heat generating). If left to cure in a contained mass, such as in a mixing vessel, it can generate enough heat to melt plastic, burn skin or ignite surrounding combustible materials. The larger or thicker the epoxy mass, the more heat generated.

Conditions for safe storage : Store under conditions specified on the product Technical Data Sheet to maintain product quality.
No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters /	Basis

		exposure)	Permissible concentration	
Xylene	1330-20-7	TWA	100 ppm 435 mg/m3	OSHA Z-1
		STEL	150 ppm 655 mg/m3	OSHA P0
		TWA	100 ppm 435 mg/m3	OSHA P0
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
1-Methoxy-2-propanol acetate	108-65-6	TWA	50 ppm	US WEEL
Glycol ether	111-90-0	TWA	25 ppm	US WEEL
Ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	OSHA Z-1
		TWA	100 ppm 435 mg/m3	OSHA P0
		STEL	125 ppm 545 mg/m3	OSHA P0
1-Methoxy-2-propanol	107-98-2	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
Toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	200 ppm	OSHA Z-2
		CEIL	300 ppm	OSHA Z-2
		Peak	500 ppm	OSHA Z-2
		TWA	100 ppm 375 mg/m3	OSHA P0
		STEL	150 ppm 560 mg/m3	OSHA P0

Engineering measures : Use with adequate ventilation.
All application areas should be ventilated in accordance with applicable OSHA regulations. (29 CFR 1910.94)

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	84 °F (29 °C) Method: ASTM D 93
Evaporation rate	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative Density/Specific Gravity	:	No data available
Density	:	1.0522 g/cm3 (77 °F (25 °C))
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available

Viscosity

Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Greater than 22 mm2/s (104 °F (40 °C))

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Hazardous decomposition products	:	The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, CO and water. Fluorinated hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Skin contact
Skin absorption
Eyes

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : 19921 ppm Exposure time: 4 h Test atmosphere: gas Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Components:

25036-25-3 Epoxy Resin:

Acute oral toxicity	:	Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

25068-38-6 Epoxy Resin:

Acute oral toxicity : LD50 (Rat): 11,400 mg/kg

LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 420
GLP: yes

Acute inhalation toxicity : LC50 : Remarks: No data available

Acute dermal toxicity : LD50 (Rabbit): 23,400 mg/kg

LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

1330-20-7 Xylene:

Acute oral toxicity : LD50 (Rat): 3,523 mg/kg

Acute inhalation toxicity : LC50 (Rat): 5000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rabbit): 1,700 mg/kg

108-65-6 1-Methoxy-2-propanol acetate:

Acute oral toxicity : LD50 (Rat, female): 5,155 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 100 ppm
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

100-41-4 Ethylbenzene:

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 5,510 mg/kg

107-98-2 1-Methoxy-2-propanol:

Acute oral toxicity : LD50 (Rat): > 5,900 mg/kg

Acute inhalation toxicity : LC50 (Rat): 1500 ppm

Acute dermal toxicity : LD50 (Rabbit): 13,000 mg/kg

108-88-3 Toluene:

Acute oral toxicity : LD50 (Rat): 2,600 mg/kg

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation and/or dermatitis.

Components:

25036-25-3 Epoxy Resin:
Remarks: No data available

25068-38-6 Epoxy Resin:
Species: Rabbit
Result: Moderate skin irritation

Species: Rabbit
Exposure time: 4 h
Method: OECD Test Guideline 404
Result: Skin irritation
GLP: yes

1330-20-7 Xylene:
Species: Rabbit
Result: Moderate skin irritation

108-65-6 1-Methoxy-2-propanol acetate:
Species: Rabbit
Result: Moderate skin irritation

100-41-4 Ethylbenzene:
Species: Rabbit
Result: Moderate skin irritation

107-98-2 1-Methoxy-2-propanol:
Species: Rabbit
Result: Moderate skin irritation

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Components:

25036-25-3 Epoxy Resin:
Remarks: No data available

25068-38-6 Epoxy Resin:
Species: Rabbit
Result: Eye irritation

1330-20-7 Xylene:
Species: Rabbit

Result: Eye irritation

108-65-6 1-Methoxy-2-propanol acetate:
Species: Rabbit
Result: Eye irritation

100-41-4 Ethylbenzene:
Species: Rabbit
Result: Moderate eye irritation

107-98-2 1-Methoxy-2-propanol:
Species: Rabbit
Result: Eye irritation

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Components:

25036-25-3 Epoxy Resin:
Remarks: No data available

25068-38-6 Epoxy Resin:
Test Type: Mouse Local Lymph Node assay (LLNA)
Species: Mouse
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact.
GLP: yes

107-98-2 1-Methoxy-2-propanol:
Test Type: Maximisation Test (GPMT)
Exposure routes: Dermal
Species: Guinea pig
Result: Does not cause skin sensitisation.
GLP: yes

Carcinogenicity

IARC	Group 2B: Possibly carcinogenic to humans	
	Ethylbenzene	100-41-4
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.	
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.	

NTP 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.

Aspiration toxicity

Components:

25068-38-6 Epoxy Resin:
No aspiration toxicity classification

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

25068-38-6 Epoxy Resin:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 1.7 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.3 mg/l Exposure time: 21 d Test Type: semi-static test Method: OECD Test Guideline 211 GLP: yes

Persistence and degradability

Components:

25068-38-6 Epoxy Resin:

Biodegradability	:	Result: Not readily biodegradable. Method: OECD Test Guideline 301F GLP: yes

Bioaccumulative potential

Components:

25068-38-6 Epoxy Resin:

Partition coefficient: n-	:	log Pow: 3.242 (25 °C)

octanol/water	pH: 7.1 Method: OECD Test Guideline 117 GLP: yes

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	: No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

EPA Hazardous Waste Code(s)	: D001: Ignitable D018: Benzene
Waste from residues	: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Catalyzed resin can generate hazardous exothermic heat if allowed to polymerize in a mass. All soiled or waste materials must be water soaked, and kept in a closed bin until disposed of. Dispose of the solid mass only if cure is complete and the mass has cooled. Follow federal, state or local disposal regulations.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

UN/ID No.	:	UN 1866
Proper shipping name	:	Resin solution
Class	:	3
Packing group	:	III
Labels	:	Flammable liquid
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

IMDG-Code

UN number	:	UN 1866
Proper shipping name	:	RESIN SOLUTION
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 1866
Proper shipping name	:	Resin solution
Class	:	3
Packing group	:	III
Labels	:	Flammable liquid
ERG Code	:	127
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Xylene	1330-20-7	100	511

SARA 304 Extremely Hazardous Substances Reportable Quantity

Calculated RQ exceeds reasonably attainable upper limit.

SARA 302 Extremely Hazardous Substances Reportable Quantity

Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Xylene	1330-20-7	19.5 %
Glycol ether	111-90-0	5.3 %
Ethylbenzene	100-41-4	4.9 %

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Xylene	1330-20-7	19.5 %
Glycol ether	111-90-0	5.3 %
Ethylbenzene	100-41-4	4.9 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Xylene	1330-20-7	19.5 %
Glycol ether	111-90-0	5.3 %
Ethylbenzene	100-41-4	4.9 %

Non-volatile (Wt) : Refer to the product technical data sheet for VOC information.

Massachusetts Right To Know

Xylene	1330-20-7
Ethylbenzene	100-41-4
1-Methoxy-2-propanol	107-98-2
Epichlorohydrin	106-89-8
Benzene	71-43-2

Pennsylvania Right To Know

Epoxy Resin	25036-25-3
Epoxy Resin	25068-38-6
Xylene	1330-20-7

1-Methoxy-2-propanol acetate	108-65-6
Glycol ether	111-90-0
Ethylbenzene	100-41-4
1-Methoxy-2-propanol	107-98-2
Toluene	108-88-3
Cumene	98-82-8
Epichlorohydrin	106-89-8

New Jersey Right To Know

Epoxy Resin	25036-25-3
Epoxy Resin	25068-38-6
Xylene	1330-20-7
1-Methoxy-2-propanol acetate	108-65-6
Glycol ether	111-90-0
Ethylbenzene	100-41-4
1-Methoxy-2-propanol	107-98-2
Toluene	108-88-3

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : NOT APPLICABLE

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

Ethylbenzene	100-41-4
Cumene	98-82-8
Epichlorohydrin	106-89-8
Benzene	71-43-2
Phenyl glycidyl ether	122-60-1

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Toluene	108-88-3
Epichlorohydrin	106-89-8
Benzene	71-43-2

The components of this product are reported in the following inventories:

TSCA : We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).

Section 4 / 12(b) : Not applicable

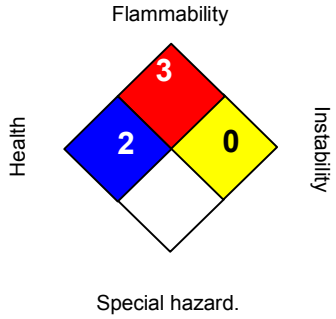
Section 5 Not applicable

DSL : We certify that all of the components of this product are listed on the DSL.

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 06/09/2015

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.