Safety Data Sheet

Section 1 - Identification

Product Name: **Synpoxy 4114-50X**

SYNRAY CORPORATION
209 N. MICHIGAN AVE
KENILWORTH, NJ 07033

INFORMATION TELEPHONE NO.:
(908) 245-2600

TRANSPORTATION EMERGENCY:
CHEMTREC (800) 424-9300 CCN: 21621

Section 2 - Hazards identification

May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.

Causes skin irritation.

Direct contact with eyes may cause temporary irritation.

May be fatal if swallowed and enters airways. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

GHS Ratings:

Flammable liquid	2	Flash point < 23°C and initial boiling point > 35°C (95°F)
Skin corrosive	2	Reversible adverse effects in dermal tissue, Draize score: >= 2.3 < 4.0 or persistent inflammation
Eye corrosive	2	Eye Irritation: Reversible adverse effects on cornea, iris, conjunctiva, Draize score: Corneal opacity >= 1, Iritis > 1, Redness >= 2, Chemosis >= 2
Carcinogen	2	Limited evidence of human or animal carcinogenicity
Reproductive toxin	1A	Based on human evidence

GHS Hazards

H225	Highly flammable liquid and vapour
H315	Causes skin irritation
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child

GHS Precautions

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/light/…/equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection
P281	Use personal protective equipment as required

P321	Specific treatment (see … on this label)
P362	Take off contaminated clothing and wash before reuse
P302+P352	IF ON SKIN: Wash with soap and water
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305+P351+P338	IF IN EYES: Rinse continuously 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
P332+P313	If skin irritation occurs: Get medical advice/attention
P337+P313	Get medical advice/attention
P370+P378	In case of fire: Use dry chemical for extinction
P405	Store locked up
P403+P235	Store in a well ventilated place. Keep cool
P501	Dispose of contents/container by appropriate methods.

Signal Word: Danger

Section 3 - Composition/ information on ingredients

Chemical Name	CAS number	Weight Concentration %
Epoxy Polymer	Proprietary Polymer	50.00% - 60.00%
m-Xylene	108-38-3	20.00% - 30.00%
p-Xylene	106-42-3	5.00% - 10.00%
Benzene, Ethyl-	100-41-4	5.00% - 10.00%
o-Xylene	95-47-6	5.00% - 10.00%

Section 4 - First-aid measures

Inhalation: Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Eye Contact: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Skin Contact: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

Ingestion: If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Immediate medical attention, special treatment: Potential for chemical pneumonitis. Call a doctor or poison control center for guidance.

Section 5 - Fire-fighting measures

Flash Point: 21 C (70 F)
LEL: 1.00 UEL:

Extinguishing media: Dry chemical. Carbon Dioxide. Foam.

Special fire fighting procedures: Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool. USE WATER WITH CAUTION. Material will float and may ignite on surface of water. Vapor may cause flash fire.
Vapor may cause flash fire. Vapor is denser than air - flashback may be possible over considerable distances. The product can accumulate electrostatic charges, which may cause an electrical spark (ignition source).

Special protective equipment for fire-fighters: Firefighters must use full bunker gear including NIOSH-approved (or equal), full-face, self-contained breathing apparatus (SCBA) operated in positive pressure mode. Firefighters' protective clothing will provide only limited protection against liquid contact.
Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. Water spray should be used to cool structures and vessels. Use compatible foam to minimize vapor generation as needed. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Water runoff can cause environmental damage.

Section 6 - Accidental release measures

Observe all relevant local and international regulations.
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
Local authorities should be advised if significant spillages cannot be contained.

Avoid contact with skin, eyes and clothing.
Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Do not breathe fumes, vapor.
Do not operate electrical equipment.

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapor or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Monitor area with combustible gas indicator.

For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely Remove contaminated soil and dispose of safely.

For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Ventilate contaminated area thoroughly.
If contamination of site occurs remediation may require specialist advice.

U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802.

Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Center at (800) 424-8802.

Section 7 - Handling and storage

Precautions for safe handling:
Avoid inhaling vapor and/or mists. Avoid contact with skin, eyes and clothing.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Use local exhaust ventilation if there is risk of inhalation of vapors, mists or aerosols.
Bulk storage tanks should be diked (bunded).
When using do not eat or drink.
See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity).
CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Product Transfer:
Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapor mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ($\leq$ 1 m/s until fill pipe submerged to twice its diameter, then $\leq$ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Storage:
Bulk storage tanks should be diked (bunded).
Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.
Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat.
Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment.
Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.
The vapors in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Section 8 - Exposure controls/personal protection

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Epoxy Polymer Proprietary Polymer	Not Established	Not Established	Not Established
m-Xylene 108-38-3	Not Established	150 ppm STEL 100 ppm TWA	NIOSH: 100 ppm TWA; 435 mg/m3 TWA 150 ppm STEL; 655 mg/m3 STEL
p-Xylene 106-42-3	Not Established	150 ppm STEL 100 ppm TWA	NIOSH: 100 ppm TWA; 435 mg/m3 TWA 150 ppm STEL; 655 mg/m3 STEL

Benzene, Ethyl- 100-41-4	100 ppm TWA; 435 mg/m3 TWA	20 ppm TWA	NIOSH: 100 ppm TWA; 435 mg/m3 TWA 125 ppm STEL; 545 mg/m3 STEL
o-Xylene 95-47-6	Not Established	150 ppm STEL 100 ppm TWA	NIOSH: 100 ppm TWA; 435 mg/m3 TWA 150 ppm STEL; 655 mg/m3 STEL

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

Skin protection: It is a good industrial hygiene practice to minimize skin contact. For operations where prolonged or repeated skin contact may occur, chemical-resistant gloves should be worn. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Section 9 - Physical and chemical properties

Odor: Solvent	**Flash point:** 70 F
Boiling range: 270 - 280 F	**Melting point:** ND
Non-volatiles: See technical data sheet	**Solubility in water:** Insoluble
Viscosity: See technical data sheet	**Density, lbs/gallon:** 8.0
Explosive limits: LEL 1%	**Vapor pressure:** 7.8 mmHg
Vapor density: 3.7	**Evaporation rate:** <1 (butyl acetate=1)
Appearance: Amber, viscous liquid	**Autoignition temperature:** 432 C
Decomposition temperature: ND	**.** .
. .	**NA =** Not applicable
ND = Not determined	**pH:** NA

Section 10 - Stability and reactivity

Reactivity: None known. Stable.
Conditions to Avoid: Heat, sparks, flames. In certain circumstances product can ignite due to static electricity.
Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products:
Hazardous decomposition products are not expected to form during normal storage.
Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including

carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Section 11 - Toxicological information

Mixture Toxicity

Inhalation Toxicity LC50: 182mg/L

Component Toxicity

108-38-3	m-Xylene Oral LD50: 5 g/kg (Rat)
106-42-3	p-Xylene Oral LD50: 4,029 mg/kg (Rat) Inhalation LC50: 4,740 ppm (Rat)
100-41-4	Benzene, Ethyl- Oral LD50: 3,500 mg/kg (Rat) Inhalation LC50: 17 mg/L (Rat)
95-47-6	o-Xylene Oral LD50: 3,608 mg/kg (Rat) Inhalation LC50: 4,330 ppm (Rat)

Effects of Overexposure

CAS Number	Description	% Weight	Carcinogen Rating
100-41-4	Benzene, Ethyl-	5 to 10%	Benzene, Ethyl-: IARC: Possible human carcinogen OSHA: listed

Section 12 - Ecological information

Component Ecotoxicity

m-Xylene	96 Hr LC50 Pimephales promelas: 14.3 - 18 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 8.4 mg/L [semi-static]; 96 Hr LC50 Poecilia reticulata: 12.9 mg/L [semi-static] 48 Hr EC50 Daphnia magna: 2.81 - 5.0 mg/L [Static] 72 Hr EC50 Pseudokirchneriella subcapitata: 4.9 mg/L [static]
p-Xylene	96 Hr LC50 Pimephales promelas: 7.2 - 9.9 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 2.6 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 2.6 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 8.8 mg/L [semi-static] 48 Hr EC50 Daphnia magna: 3.55 - 6.31 mg/L [Static] 72 Hr EC50 Pseudokirchneriella subcapitata: 3.2 mg/L [static]
Benzene, Ethyl-	96 Hr LC50 Oncorhynchus mykiss: 11.0 - 18.0 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 4.2 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas: 7.55 - 11 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 32 mg/L [static]; 96 Hr LC50 Pimephales promelas: 9.1 - 15.6 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 9.6 mg/L [static] 48 Hr EC50 Daphnia magna: 1.8 - 2.4 mg/L 72 Hr EC50 Pseudokirchneriella subcapitata: 4.6 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: >438 mg/L; 72 Hr EC50 Pseudokirchneriella subcapitata: 2.6 - 11.3 mg/L [static]; 96 Hr EC50 Pseudokirchneriella subcapitata: 1.7 - 7.6 mg/L [static]

o-Xylene	96 Hr LC50 Pimephales promelas: 11.6 - 22.4 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 11.6 - 22.4 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 5.59 - 11.6 mg/L [flow-through]; 96 Hr LC50 Poecilia reticulata: 12 mg/L 48 Hr EC50 Daphnia magna: 3.2 mg/L; 48 Hr EC50 Daphnia magna: 2.61 - 5.59 mg/L [Flow through]; 48 Hr EC50 Daphnia magna: 0.78 - 2.51 mg/L [Static] 72 Hr EC50 Pseudokirchneriella subcapitata: 4.7 mg/L [static]

Section 13 - Disposal considerations

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water courses
Waste product should not be allowed to contaminate soil or water.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.Comply with any local recovery or waste disposal regulations.

Section 14 - Transport information

DOT SHIPPING NAME: UN1866, Resin Solution, 3, II
LABELS REQUIRED: Flammable 3

Section 15 - Regulatory information

The following chemicals are reportable under CA PROP 65:
100-41-4 Benzene, Ethyl- 5 to 10 % Carcinogen

The following chemicals are reportable under MA RTK:
95-47-6 o-Xylene 5 to 10 %
100-41-4 Benzene, Ethyl- 5 to 10 %
106-42-3 p-Xylene 5 to 10 %
108-38-3 m-Xylene 20 to 30 %

The following chemicals are reportable under NJ RTK:
95-47-6 o-Xylene 5 to 10 %
100-41-4 Benzene, Ethyl- 5 to 10 %
106-42-3 p-Xylene 5 to 10 %
108-38-3 m-Xylene 20 to 30 %

The following chemicals are reportable under PA RTK:
95-47-6 o-Xylene 5 to 10 %
100-41-4 Benzene, Ethyl- 5 to 10 %
106-42-3 p-Xylene 5 to 10 %
108-38-3 m-Xylene 20 to 30 %

Country	Regulation	All Components Listed
USA	TSCA	Yes

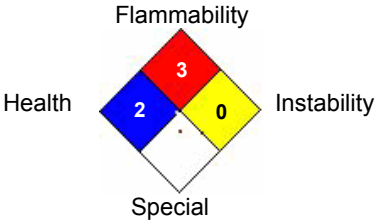
Section 16 - Other information

Hazardous Material Information System (HMIS)

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	H

HMIS & NFPA Hazard Rating Legend
*** = Chronic Health Hazard**
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

National Fire Protection Association (NFPA)



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Reviewer Revision

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