SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: 4522-E
Product type: epoxy resin
Restriction of use: None identified
Company Address: Precision Adhesives and Chemicals
131 Brown Street
Yatesville, PA 18640
Telephone numbers: 570-654-6735
Transport Emergency phone: Chemtrec 800-424-9300
Medical Emergency phone: Poison Contol Center 1.877.671.4608

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

Skin irritation (Category 2)
Eye irritation (Category 2A)

Signal Word: Warning

Hazard Statements:

H315: Causes skin irritation.
H401: Toxic to aquatic life.

Pictograms:

Precautionary Statements:

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331: Do NOT induce vomiting

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Identity	C.A.S. #	%
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane *Common name:* Bisphenol A Diglycidyl Ether Polymer	25068-38-6	40-60

4. FIRST AID MEASURES

Irritating to eyes & skin. May cause sensitization by skin contact.

Warning! Causes allergic skin reactions. May cause irritation.

Ingestion:
If swallowed,give at least 3-4 glass of water but do not induce vomiting. If vomiting occurs, give water again. Do not give anything by mouth to an unconscious or convulsing person. Get Medical attention. Have physician determine whether vomiting or stomach evacuation is necessary.

Skin:
For skin contact, wash with large amounts of running water,(and soap), if available, for15 minutes. Remove contaminated clothing and shoes. Get immediate medical attention. Discard or decontaminate clothing before re-use and destroy contaminated shoes.

Eyes:
For eyes contact, immediately flush eyes for 15 minutes with running water. Hold eye lids apart to ensure rinsing of the entire surface and lids with water. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flashpoint: 4◦C (490◦F) closed cup

Auto-ignition temperature
No data

NFPA rating
Not determined

Extinguishing Media: Dry Chemical, Carbon Dioxide, Foam, Water Spray

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards: Non-flammable product.

Hazardous combustion products:
Decomposition and combustion product may be toxic.
Products Under conditions of incomplete combustion or pyrolysis, Phenolics and carbon dioxides may be evolved. The thermal decomposition products therefore should be treated as potentially hazardous substances and appropriate precautions should be taken.

6. ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup: Absorb with sand, earth, vermiculite. Sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal: Dispose of in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Store in cool, dry area in sealed containers. Keep containers closed to prevent moisture absorption and contamination

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye protection
Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection
Wear resistant gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory protections
If workplace exposure limits of product or any component are exceeded, a NIOSH/MSHA approved

air supplied respirator is advised in absence of proper environmental control. OSH regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions. Engineering or administrative controls should be implemented to reduce exposure.

Engineering controls
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV.

Exposure guidelines

TOLUENE (108-88-3)
OSHA PEL 200 ppm – TWA
OSHA PEL 300 ppm – ceiling
OSHA VPEL 100 ppm – TWA
OSHA VPEL 150 ppm – STEL
ACGIH TLV 50 ppm – TWA (skin)
ACGIH TLV 150 ppm – STEL (skin)

9. PHYSICAL AND CHEMICAL PROPERTIES

Color : Clear
Odor : Slight
Physical state : Liquid
Solubility in water : Insoluble
Vapor pressure : ~ 1 mm Hg at 180^{o} C (356 ^{o} F)
Specific Gravity : 1.15-1.17 at 20^{o} C (68^{o}F)
Boiling Point : >200 ^{o} C (>392 ^{o} F)
Decomposition : > 200^{o}C (> 392^{o}F)
Temperature
Percent Volatile : Nil

10. STABILITY AND REACTIVITY

Condition to Avoid : Avoid strong acids or bases in bulk and elevated temperatures.
Stability : Stable.
Incompatibility : Strong oxidizing agents.
Hazardous Decomposition Products : Carbon monoxide, Carbon dioxide, Aldehydes.
Hazardous Polymerization : Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral effect (LD50) : (Rat) > 5,000 mg / kg.
Acute Dermal Toxicity (LD50) : (Rabbit) > 6,000 mg/kg.

Sensitization : Moderate sensitizer.
Skin Irritation : (Rabbit) Moderate irritation.
Eye Irritation : (Rabbit) Slight irritation.
Teratogenicity : (Rat, Rabbit) No adverse effects on embryonic or fatal development were observed.
Mutagenicity : Ames Test: Both positive and negative results.
Hamster Bone Marrow Cytogenetic(in vivo) : Negative
Mouse Spermatocytes Cytogenetics(in vivo) : Negative
Micronucleus Test (in vivo) Negative.
Mouse Dominant lethal Test: Negative
Alkylation of DNA: Positive
Human Mononucleated WBC (in vitro): Negative.
Host mediated Assay: Negative
Sub-Chronic : (Rat) No observable effect at highest level studied (1000 mg/kg/day for 28 days) in oral feeding study.
Chronic Skin Exposure : 2-Year Dermal study in mice: No treatment related effects.
effects 2-Year Skin painting Studies:
a) C3HF /BD Mice: No increased tumor incidence.
b) C75BL/6BDMice: Slight increase in epidermal localized carcinomas at high dose.
c)C3H Mice: No tumor

Mice receiving skin applications of the Diglycidyl Ether of Bisphenol A or essentially identical resins for two years have yielded very limited evidence of weak carcinogenicity. The published report on his study concludes that this resin product "is not a systemic carcinogen when applied to the skin of CF-1 mice" and the tumor data "was of no biological importance". Based on all available data, IARC (International Agency for research on Cancer) has concluded in 1988 that DGEBPA is not classified as a carcinogen.

12. ECOLOGICAL INFORMATION

Biodegradability : (Modified Sturm method): ~ 12%
Fish Toxicity : Rainbow Trout (96 hr.): LC50 1.5 mg/l.
Zebra Fish (96 hr.): LC502.4 mg/l.
Invertebrate Toxicity : Daphnia Toxicity (24 hr.): EC50 3.6 mg/l.

13. DISPOSAL CONSIDERATION

Disposal in accordance with federal, state and local regulation.

14. TRANSPORT INFORMATION

DOT information – Not regulated

15. REGULATORY INFORMATION

US Federal Regulation:
Occupational Safety and Health Act (OSHA): This Material safety data Sheet (MSDS) has been prepared in compliance with federal OSHA hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.
Resource Conservation and Recovery Act (RCRA): Not a hazardous waste under RCRA (40 CFR 261).
SARA Title III: Section 304 – CERCLA: Not listed
SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain a toxic chemical for routine annual 'Toxic Chemical release reporting' under section 313(40 CFR 372)
TSCA Section 8 (b) – Inventory Status: Chemical component listed on TSCA Inventory.
TSCA Section 12(b) – Export Notification: This product does not contain any chemical(s) that are subject to a section 12(b).
International Regulations:
Canadian Inventory Status: All components included on the Domestic Substance List (DSL).

16. OTHER INFORMATION

Updated: 1/30/18

SPECIAL COMMENT REGARDING ALL MATERIALS MANUFACTURED

All information, recommendations and suggestions appearing herein concerning our products are based upon test data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity and suitability for use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Adhesives and Chemicals as to the effects or such use, the results to be obtained, or the safety and toxicity of the product nor does Adhesives and Chemicals assume any liability arising out of use, by others, of the product referred to herein. The information herein is not to be considered as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.