



THE EDGE OF INNOVATION

GHS COMPLIANT SAFETY DATA SHEET

TO COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR.1910.1200 & THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

SECTION 1: IDENTIFICATION

PRODUCT NAME	Epoxy Hardener G-91
MFR.'S CODE ID/SYNONYMS	Epoxy Hardener G-91
CAS NUMBER	Proprietary
PRODUCT USE	Epoxy Hardener
RESTRICTIONS ON USE	For industrial use only
MANUFACTURER/SUPPLIER	Estron Chemical, Inc.
ADDRESS	807 North Main Street, Calvert City, KY 42029 USA
GENERAL INFORMATION	(270) 395-4195
EMERGENCY TELEPHONE	CHEMTREC (800) 424-9300



SECTION 2: HAZARDS IDENTIFICATION

Signal Word: *Warning*

GHS Classification

Physical	Health	Environmental
OSHA Combustible Dust	Acute Toxicity (Oral, Inhalation) – Category 4 Skin Irritation – Category 2 Eye Irritation – Category 2A Specific Organ Toxicity, Single Exposure – Category 3 (Respiratory System)	Hazardous to the Aquatic Environment, Acute Hazard – Category 2 Hazardous to the Aquatic Environment, Chronic Hazard – Category 2

GHS Label

 	
Symbols: Exclamation Mark Environment	
Hazard Statements H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye irritation H332: Harmful if inhaled H335: May cause respiratory irritation H411: Toxic to aquatic life with long lasting effects May form combustible dust concentrations in air.	Precautionary Statements <i>Prevention</i> P261: Avoid breathing dust/fume/gas/mist/vapours/spray. P264: Wash exposed skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. <i>Response</i> P301+312+330: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. P302+352: IF ON SKIN: Wash with soap and water. P304+340+312: 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.

	<p>P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P321: Specific treatment (see supplemental first aid instructions on this label) P332+313: If skin irritation occurs: Get medical advice/attention. P337+313: If eye irritation persists get medical advice/attention. P362+P364: Take off immediately all contaminated clothing and wash it before reuse. P391: Collect spillage.</p> <p><i>Storage</i> P403+233: Store in a well ventilated place. Keep container tightly closed. P405: Store locked up.</p> <p><i>Disposal</i> P501: Dispose of contents/container to an authorized hazardous waste handler.</p>
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HAZARDS NOT OTHERWISE CLASSIFIED: None identified.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	%	CLASSIFICATION	H Codes
Modified epoxy resin	Proprietary	90 – 100	OSHA Combustible Dust	None
2-isopropyl-1H-imidazole	36947-68-9	0 – 5	Acute Toxicity (Oral, Inhalation) – Category 4 Skin Corrosion/Irritation – Category 2 Eye Irritation – Category 2A Specific Organ Toxicity, Single Exposure – Category 3 (Respiratory System)	H302, H332 H315 H319 H335
Triphenyl Phosphite	101-02-0	0 – 5	Skin Irritation – Category 2 Eye Irritation – Category 2A Acute Aquatic Toxicity –Category 1 Chronic Aquatic Toxicity - Category 1	H315 H319 H400 H410

(See Section 8 for Exposure Limits)

SECTION 4: FIRST-AID MEASURES

SYMPTOMS OF EXPOSURE

ACUTE	Skin irritation. Serious eye irritation. Respiratory irritation. Difficulty breathing.
DELAYED	Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin. Shortness of breath.
INHALATION	Harmful if inhaled. May cause respiratory irritation. 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.
SKIN CONTACT	Causes skin irritation. Wash thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse.
EYE CONTACT	Causes serious eye irritation. Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists, get medical advice/attention.
INGESTION	Harmful if swallowed. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
SPECIFIC TREATMENT	No other specific treatments are known or have been identified.

SECTION 5: FIRE FIGHTING MEASURES

FLAMMABILITY CLASSIFICATION	OSHA Combustible Dust
FLAMMABLE LIMITS	No test data available
HAZARDOUS COMBUSTION PRODUCTS	Carbon monoxide and carbon dioxide.
EXTINGUISHING MEDIA	Dry Chemical, Water Fog, CO ₂

UNUSUAL FIRE AND EXPLOSION HAZARDS	Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.
SPECIAL FIRE FIGHTING PROCEDURES	None known.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS	As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full (Bunker) protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS	Prevent contact with skin, eyes and clothing.
PROTECTIVE EQUIPMENT EMERGENCY PROCEDURES	See Personal Protective Equipment in Section 8. Avoid unnecessary exposure to bystanders, prevent contact with open flames or other ignition sources.
ENVIRONMENTAL PRECAUTIONS	Obey relevant local, state, provincial and federal laws and regulations. Do not allow the product to enter public drainage systems or open water courses.
METHODS AND MATERIALS FOR CLEANING UP	Avoid creating excessive dust while collecting. Sweep or scoop into a suitable container for disposal.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	Prevent contact with skin and eyes. Avoid inhalation. Do not eat, drink or smoke when using this product. If necessary, use local ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, <i>Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids</i> , for additional information regarding safe handling.
CONDITIONS FOR SAFE STORAGE	Store locked up. Keep container tightly closed in a dry and well ventilated place. Best when stored at temperatures controlled to be below 30 °C (85 °F). The product shelf life is two years from date of manufacture in an unopened container stored at 20 °C.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENTS	CAS #	%	ACGIH TLV	OSHA PEL
Modified epoxy resin	Proprietary	90 – 100	<i>None established</i>	<i>None established</i>
2-isopropyl-1H-imidazole	36947-68-9	0 – 5	<i>10 mg/m³</i>	<i>10 mg/m³</i>
Triphenyl Phosphite	101-02-0	0 – 5	<i>None established</i>	<i>None established</i>

APPROPRIATE ENGINEERING CONTROLS	Showers, eyewash stations and ventilation systems. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area. Use only appropriately classified electrical equipment and powered industrial trucks.
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PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE	Safety glasses, goggles or face shield.
SKIN	Impervious protective gloves and clothing as appropriate to prevent skin contact.
RESPIRATORY	An appropriate NIOSH approved respirator for particulate matter and dusts.
HYGIENE MEASURES	Handle in accordance with good industrial hygiene and safety practices. When using, do not eat, drink or smoke. Wash face and hands before breaks and at the end of work. Wash contaminated clothing before re-use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Tan to brown granules	ODOR	Mild, esteric
ODOR THRESHOLD	No test data available	pH	No test data available
MELTING POINT	No test data available	BOILING POINT/RANGE	>200 °C
FLASH POINT	Over 200 °F	EVAPORATION RATE	No test data available
FLAMMABILITY	OSHA Combustible Dust		
FLAMMABLE LIMITS	LOWER No test data available	UPPER	No test data available
VAPOR PRESSURE	No test data available	VAPOR DENSITY	No test data available
RELATIVE DENSITY	No test data available	SOLUBILITY IN H ₂ O	Not readily soluble
PARTITION COEFFICIENT (n-octanol/water)	No test data available	AUTOIGNITION TEMPERATURE	No test data available
DECOMPOSITION TEMPERATURE	> 250 °C	VISCOSITY	No test data available
% VOLATILE	1 Maximum	SOFTENING POINT	90 - 110 °C

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY	This product does not pose a significant reactivity hazard when stored appropriately (see Section 7).
STABILITY	This product is stable when stored appropriately (see Section 7).
CONDITIONS TO AVOID	Dust accumulation in air or on surfaces, excessive heat, moisture and open flame.
INCOMPATIBLE PRODUCTS	Acids, strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon Dioxide, Carbon Monoxide & Oxides of Nitrogen.
POSSIBILITY OF HAZARDOUS REACTIONS	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE			
ACUTE	Skin irritation. Serious eye irritation. Respiratory irritation. Difficulty breathing.		
DELAYED	Stinging, tearing, redness and swelling of the eyes. Redness or burning of the skin. Shortness of breath.		
ACUTE TOXICITY			
INHALATION	Harmful if inhaled. May cause respiratory irritation.		
SKIN	Causes skin irritation.		
EYES	Causes serious eye irritation.		
INGESTION	Harmful if swallowed.		
INHALATION TOXICITY	LC ₅₀ Rat		Not established
DERMAL TOXICITY	LD ₅₀ Rabbit	Modified epoxy 2-isopropyl-imidazole Triphenyl Phosphite	Not established Not established 2000 – 5000 mg/kg
SKIN IRRITATION	Draize, Rabbit, 24 hours	Modified epoxy 2-isopropyl-imidazole Triphenyl Phosphite	Not established No data, causes skin irritation No data, causes skin irritation
EYE IRRITATION	Draize, Rabbit, 24 hours	Modified epoxy 2-isopropyl-imidazole Triphenyl Phosphite	Not established No data, causes eye irritation No data, causes eye irritation
ORAL TOXICITY	LD ₅₀ Rat	Modified epoxy 2-isopropyl-imidazole Triphenyl Phosphite	Not established Not established 1600 mg/kg
SENSITIZATION	Draize, Rabbit		Not established

CHRONIC EFFECTS	
CARCINOGENICITY	Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65
MUTAGENIC EFFECTS	None known
REPRODUCTIVE TOXICITY	None known
TARGET ORGAN EFFECTS	None known

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY	Harmful to aquatic life with long lasting effects.		
TOXICITY TO FISH	LC ₅₀ Fish, 96 hours	Modified epoxy 2-isopropyl-imidazole Triphenyl Phosphite	Not established Not established 0.7 mg/l
TOXICITY TO DAPHNIA	Not established		
PERSISTANCE AND DEGRADABILITY	No data available		
BIOACCUMULATIVE POTENTIAL	No data available		
MOBILITY IN SOIL	No data available		
OTHER ADVERSE EFFECTS	None known		

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL Dispose of in accordance with local, state and federal regulations. This product, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This product could become a hazardous waste, if chemical additions are made or if the product is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste.

US EPA WASTE NUMBER & DESCRIPTION No information available

SECTION 14: TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

U.S. DOT

Not dangerous goods

Estron may choose to ship this product domestically as a hazardous material using one of the other codes shown in this section.

ICAO / IATA

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (contains Triphenyl Phosphite)

Classification: 9

UN#: 3077

Packing Group: III

Hazard Label: Marine pollutant

IMDG

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (contains Triphenyl Phosphite)

Classification: 9

UN#: 3077

Packing Group: III

Hazard Label: Marine pollutant

ADR/RID

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (contains Triphenyl Phosphite)

Classification: 9

UN#: 3077

Packing Group: III

TDG

Proper Shipping Name: Environmentally hazardous substance,
 solid, n.o.s. (contains Triphenyl Phosphite)
 Classification: 9
 UN#: 3077
 Packing Group: III
 Label: Miscellaneous
 Hazard Label: Marine pollutant

SECTION 15: REGULATORY INFORMATION

The components in this product are either listed or exempt from listing due to polymer exemption criteria for the following chemical listing inventories as indicated by an "X":

AIIC	Australian Inventory of Industrial Chemicals	
DSL	Canadian Domestic Substances List	X
ECL	Korean Existing Chemicals List	X
ENCS	Japanese Existing and New Chemical Substances	
IECSC	Inventory of Existing Chemical Substances in China	X
INSQ	National Inventory of Chemical Substances in Mexico	
NDSL	Canadian Non-Domestic Substances List	
NZIoC	New Zealand Inventory of Chemicals	X
PICCS	Philippines Inventory of Chemicals and Chemical Substances	
TCSI	Taiwan Chemical Substances List	X
TSCA	US Toxic Substances Control Act	X
VNECI	Vietnam National Existing Chemical Inventory	X

INTERNATIONAL REGULATIONS

EU REGULATION (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorization, *Substances of Very High Concern*: This product does not contain any SVHC listed substances.

REACH All components are not REACH registered. Import quantities may be limited.

C.D. 96/82/EC Council Directive 96/82/EC, Annex I not mentioned by name. With regard to possibly appropriate decomposition products see Chapter 10.

FEDERAL REGULATIONS

SARA 313 This product does not contain any chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA Section 311/312 (40 CFR 370) Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

CERCLA This product, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional or state level pertaining to releases of this product.

CLEAN WATER ACT This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CLEAN AIR ACT This product does not contain any substances regulated as hazardous air pollutants (HAPS under Section 112 of the Clean Air Act Amendments of 1990.

OTHER FEDERAL None known

U.S. STATE REGULATIONS

- RIGHT TO KNOW** The Listing requirements of the Right to Know (RTK) legislation varies by state. All information for NJ, PA, MA and other states can be derived from the listing of hazardous and non-hazardous components in Sections 3 and 15 of this Safety Data Sheet.
- CALIFORNIA PROP 65** This product may contain trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16: OTHER INFORMATION

- DISCLAIMER** This product is intended for industrial use only and should be used in accordance with the manufacturer's recommendations. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- DATE OF REVISION** August 23, 2022, *replaces the September 21, 2020 version.*
- REASON FOR REVISION** Updated Registry Listings in Section 15.
- SDS PREPARED BY** Glen Pearson
- SDS APPROVED BY** Robert Auerbach