

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name: 3:1 Industrial Resin
Product Codes(s): 3:1 Industrial Resin
Synonym(s): Liquid epoxy resin
REACH Registration Number: No data available

1.2 Relevant identified uses of the substance or mixture and uses advised against

General use: Industrial coatings
Uses advised against: No uses advised against

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Distributor
 McKinnon Materials, Inc
 5612 56th Commerce Park Blvd.
 Tampa, FL 33610 USA
 +1-813-622-7031

1.4 Emergency telephone numbers: CHEMTREC +1-800-424-9300 USA; +1-813-622-7031 International

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Mixture
Classification in accordance with 28 CFR 1910 (OSHA HCS)
 Skin Irritation - Category 2 [315]
 Skin Sensitization - Category 1 [317]
 Eye Irritation - Category 2A [H319]
 Aquatic Chronic - Category 2 [H411]

2.2 Label Elements

Hazard Symbol(s):



GHS07 GHS09

Signal Word:

Warning

Hazard Statement(s):

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements:

[Prevention]

P261 - Avoid breathing fumes and vapors.
 P264 - Wash hands thoroughly after handling.
 P272 - Contaminated work clothing should not be allowed out of the workplace.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves, protective clothing and eye protection.

[Response]

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P321 - Specific treatment: Seek medical attention. Refer to Section 4 of this SDS.
 P333 + P313 - If skin irritation or rash occurs: Get medical attention.
 P362 - Take off contaminated clothing and wash before reuse.
 P337 + P313 - If eye irritation persists: Get medical attention.
 P391 - Collect spillage.

[Disposal]

P501 - Dispose of contents in accordance with national and local regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical characterization

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
100	Liquid Epoxy Resin Compound	Proprietary	-----	-----	H315, H317, H319, H411

The composition of this material is a trade secret (29 CFR 1910.1200(i)). The identities of the components of this product are available to the attending physician or paramedical personnel in case of emergency. Proprietary ingredients are non-toxic.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting upper and lower lids. Do not rub eyes. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. Obtain immediate medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing. Wash affected area with soap and water. Wash contaminated clothing thoroughly before reuse. Discard contaminated shoes and items that cannot be decontaminated, including leather items such as shoes, belts and watchbands.

Ingestion: Rinse mouth with water if victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration of material into the lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes serious eye irritation with redness, tearing, swelling, itching and discomfort. Prolonged eye exposure may cause eye damage.

Skin: May cause skin irritation with localized redness and discomfort. May cause allergic skin reactions and possible sensitization in humans.

Inhalation: No harmful effects expected with normal use. Vapor from heated material may cause irritation of the respiratory system.

Ingestion: May cause irritation of the gastrointestinal system with nausea, vomiting, abdominal pain and diarrhea.

Chronic: Prolonged and repeated contact with unprotected skin may cause skin sensitization.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel: Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Water fog or fine water spray, foam (preferably alcohol resistant foam), dry chemical or carbon dioxide.

Unsuitable methods of extinction: Water spray may be ineffective. Water jets and high pressure streams may spread the fire.

5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Rags soaked with any solvent or solvent containing resin can present a fire hazard and should be stored in UL listed or Factory Mutual approved, covered containers. Improperly stored rags, under certain conditions can lead to spontaneous combustion.

Unusual fire and explosion hazards: Containers may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is emitted when product burns without sufficient oxygen.

5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Firefighters should control runoff water to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Remove all sources of ignition. Ventilate the area. Wear appropriate protective clothing and equipment designated in Section 8.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers and waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Shovel or sweep up material and place in an approved container for disposal. Observe possible restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of undiluted waste via a licensed waste disposal contractor. Materials used for clean-up may also be considered hazardous waste. Wash contaminated area with soap and water. Residual material can also be removed with solvent. Solvents are not recommended for clean-up unless the recommended exposure guidelines and safe handling practices for the specific solvent are followed. Consult the appropriate solvent Safety Data Sheet for handling data and exposure guidelines.

6.4 Reference to other sections

Refer to Section 13 for waste disposal considerations. Refer to Section 12 for ecological information.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8. Do not get in eyes or on skin or clothing. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear appropriate respiratory protection.

Advice on protection against fire and explosion

Avoid use of electric band heaters. Failure of electric band heaters had been reported to cause drums of liquid epoxy resin to explode and catch fire. Application of a direct flame to the container of liquid epoxy resin can also cause explosion and/or fire.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in cool, dry, well-ventilated storage areas. Keep from freezing. Transfer only to approved containers having correct labeling. Protect containers against physical damage. Keep containers tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not reuse empty containers as they may retain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

None established

8.2 Exposure controls

Engineering Measures: Use local exhaust ventilation or other engineering controls to maintain airborne levels below exposure limit requirements. If there are no applicable exposure limits, general ventilation should be sufficient for most operations. Local exhaust is preferable.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear protective goggles or safety glasses with unperforated side shields during use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

Hand Protection: Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Other protective equipment: Use protective clothing chemically resistant to this material. Use of protective boots, face shield, apron or full body suit should be used as required by the situation.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements. If there are no applicable exposure limit requirements, wear respiratory protection when adverse effects (e.g. respiratory irritation or discomfort) have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. An organic vapor cartridge with a particulate pre-filter is an example of an effective air-purifying respirator.

Environmental exposure controls: Do not empty into drains.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, colorless to straw colored liquid
Odor	Mild
Odor Threshold	No data available
Molecular Weight	Not applicable
Chemical Formula	Not applicable
pH	No data available
Freezing/Melting Point, Range	No data available
Initial Boiling Point	>300 °C (>572 °F)
Evaporation Rate	No data available
Flammability (solid, gas)	Not applicable
Flash Point	>100 °C (>212 °F)
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Lower Explosive Limit (LEL)	No data available
Upper Explosive Limit (UEL)	No data available
Vapor Pressure	No data available
Vapor Density	>1 (Air = 1)
Specific Gravity	1.1275 - 1.1285
Viscosity	No data available
Solubility in Water	Insoluble
Partition Coefficient: n-octanol/water	No data available
Volatiles by Volume @ 21 °C	Negligible

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No special reactivity has been reported under normal handling, storage and use.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Polymerization will not occur by itself. Masses of more than 0.5 kg (1 lb) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

10.4 Conditions to avoid

Avoid short term exposures to temperatures >300 °C. Avoid prolonged exposure to temperatures above 250 °C. Potentially violent decomposition can occur above 350 °C. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.

10.5 Incompatible materials

Avoid contact with oxidizing agents, acids and bases. Avoid unintended contact with amines.

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition. Uncontrolled exothermic reaction of epoxy resins release phenolics, oxides of carbon and water.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

Expected to have low acute oral toxicity

Acute inhalation toxicity

Expected to have low acute inhalation toxicity

Acute dermal toxicity

Expected to have low acute dermal toxicity

Skin irritation

Causes skin irritation

Eye irritation

Causes serious eye irritation

Sensitization

May cause allergic skin reaction

Genotoxicity

Not expected to cause genetic defects

Mutagenicity

Not expected to be mutagenic

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

None of the components of this product, present at levels greater than or equal to the 0.1% threshold (de minimis), are identified as probable, possible, potential or confirmed carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product to humans, nor is there available data that indicates that it causes adverse developmental or fertility effects in humans.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

This product is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/l in the most sensitive species).

12.2 Persistence and degradability

This product is not readily biodegradable.

12.3 Bioaccumulation potential

Bioconcentration potential for the epoxy resin is moderate.

12.4 Mobility in soil

Potential for mobility in soil is low. Volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Additional ecological information

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. DO NOT dump into any sewers, on the ground or into any body of water. All disposal practices must be in compliance with all federal, state/provincial and local laws and regulations.

Waste characterizations and compliance with applicable laws are the responsibility of the waste generator. The preferred waste treatment options include disposal via a license waste contractor and incineration or other thermal destructive method or device.

Hazardous waste: The classification of this product may meet the criteria for a hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

US DOT (Domestic Ground Transportation)

Not regulated for transport

IMO/IMDG (Water Transportation)

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (epoxy resin)
Hazard Class: 9
UN/NA: UN 3082
Packing Group: III
Marine Pollutant: No
EMS Number: F-A, S-F

ICAO/IATA (Air Transportation)

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (epoxy resin)
Hazard Class: 9
UN/NA: UN 3082
Packing Group: III
Packing Instruction: 49 CFR 175.27 and 175.75 - Cargo Aircraft Only: no limit; Passenger Aircraft: no limit

RID/ADR (Rail Transportation)

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (epoxy resin)
Hazard Class: 9
UN/NA: UN 3082
Packing Group: III

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is not subject to TSCA 12(b) Export Notification.

Superfund Amendments and Reauthorization Act (SARA)

SARA Section 311/312 Hazard Categories: Acute Health Hazard

SARA 313 Information: None of the components of this product exceed the threshold (de minimis) reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: None of the components of this product are subject to reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): No components of the product exceed the threshold (de minimis) reporting levels for hazardous wastes established by CERCLA.

Clean Air Act (CAA)

This product does not contain any chemicals listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

Clean Water Act (CWA)

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

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

Other U.S. State Inventories

None of the components of this product are listed on any State Hazardous Substance inventories, Air Quality/Air Pollutants lists or Right-to-Know lists.

Canada

WHMIS Hazard Symbol and Classification



D2B - Toxic material causing other toxic effects - eye irritation; skin sensitization

Canadian National Pollutant Release Inventory (NPRI): Components of this product are not listed on the NPRI.

European Economic Community

Labeling (67/548/EEC to 1999/45/EC)



Xi - Irritant



N - Dangerous for the environment

Risk Phrases: R36/38 - Irritating to eyes and skin.
R43 - May cause sensitization by contact.
R51/53 - Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety Phrases: S2 - Keep out of the reach of children.
S24 - Avoid contact with skin.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 - After contact with skin wash with plenty of soap-suds.
S36/37/38 - Wear suitable protective clothing, gloves and eye/face protection.

WGK, Germany (Water danger/protection): 2

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada:	Domestic Substance List (DSL).	Yes
Canada:	Non-Domestic Substance List (NDSL).	No
Europe:	Inventory of New and Existing Chemicals (EINECS)	Yes
United States:	Toxic Substance Control Act (TSCA)	Yes
Australia:	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand:	New Zealand Inventory of Chemicals (NZIoC)	No
China:	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan:	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea:	Existing Chemicals List (ECL)	Yes
Philippines:	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	No

***"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.

***"No" indicates that one or more components of this product are not on the inventory or are exempt from listing.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	2
Flammability	1
Physical Hazard	0
Personal Protection	C

HMIS and NFPA Hazard Rating Legend

* = Chronic Health Hazard 2 = MODERATE
0 = INSIGNIFICANT 3 = HIGH
1 = SLIGHT 4 = EXTREME



Safety Glasses



Gloves



Protective Apron

National Fire Protection Association (NFPA)

Flammability



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