

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Name : 12000HV Epoxy Resin
CAS NO. : None - mix
Product code : 20286MB

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

Use of the substance/mixture : Resin: component

1.3. Details of the supplier of the safety data sheet

Encore Rail Systems, Inc.
2300 West Midway Blvd.
Broomfield, CO 80020 USA
EMERGENCY: 800-424-9300 or 703-527-3887 Chemtrec
INFORMATION: PH 303-936-3641
FAX 303-936-3640
email: <http://www.EncoreRS.com/SDS.aspx>

1.4. Emergency telephone number

Emergency number : 800-424-9300 or 703-527-3887 (Chemtrec)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315 - Causes skin irritation
Eye Irrit. 2A H319 - Causes serious eye irritation
Skin Sens. 1 H317 - May cause an allergic skin reaction
Aquatic Acute 2 H401 - Toxic to aquatic life
Aquatic Chronic 2 H411 - Toxic to aquatic life with long lasting effects

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

GHS09

Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

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 (GHS-US) :

P261 - Avoid breathing mist/vapors/spray
P264 - Wash all contact areas thoroughly after handling
P272 - Contaminated work clothing must not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection.
P302+P352 - If on skin: Wash with plenty of mild 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: See SDS Section 4.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P391 - Collect spillage
P501 - Dispose of contents/container to special waste facility in accordance with regional/national regulations.

Encore Rail Systems, Inc. 1200HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Bisphenol-A Epoxy resin	(CAS No) 25068-38-6	> 50	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Trimethylolpropane triacrylate	(CAS No) 15625-89-5	10-30	Skin Irrit. 2, H315 Skin Sens. 1, H317
Neopentyl Glycol Diglycidyl Ether	(CAS No) 17557-23-2	1 - 5	Skin Irrit. 2, H315 Skin Sens. 1, H317

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
- First-aid measures after skin contact : If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. Direct contact with the eyes is likely to be irritating.
- First-aid measures after ingestion : Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Symptoms may be delayed.
- Symptoms/injuries after inhalation : Not expected to present a respiratory hazard under ambient conditions of normal industrial use. Inhalation of vapors may cause respiratory irritation.
- Symptoms/injuries after skin contact : Causes skin irritation. May cause an allergic skin reaction. May cause sensitization by skin contact. Repeated or prolonged contact may cause injury to skin.
- Symptoms/injuries after eye contact : Causes serious eye irritation. Inflammation/damage of the eye tissue. Swelling and conjunctivitis.
- Symptoms/injuries after ingestion : Gastrointestinal complaints. Nausea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Irritating and/or toxic gases or fumes likely if involved in fire or exposed to extreme heat.
- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : On burning: release of harmful/irritant gases/vapors.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses. Protective goggles.

Encore Rail Systems, Inc. 1200HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Emergency procedures : Take up small spills with dry chemical absorbent. Clean/flush spill area with mild detergent solution.

6.1.2. For emergency responders

Protective equipment : Impermeable boots and protective equipment. Protective gloves. Safety glasses.

Emergency procedures : Stop leak if safe to do so. Prevent product from entering drains.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Clean contaminated surfaces with a soap solution.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : When heated, material emits irritating fumes.

Precautions for safe handling : Avoid contact with skin, eyes and clothing.

Hygiene measures : Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in a dry place. Keep container tightly closed to avoid moisture absorption and contamination.

Maximum storage period : 12 months

Storage temperature : <= °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Materials for protective clothing : butyl rubber. chloroprene rubber. nitrile rubber.

Hand protection : protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Long sleeved protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Thermal hazard protection : Use insulated gloves when handling this material hot.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Mixture contains one or more component(s) which have the following colour(s):
White Colourless Yellow Colourless to light yellow Pure substance: white Unpurified: coloured

Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour(s):
Mild nondescript

Odor threshold : No data available

pH : No data available

Melting point : Not applicable

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 100 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 9.75 lb/gal
Solubility	: Poorly soluble in water. Water: Solubility in water of component(s) of the mixture : •: 1 g/100ml •: 0.02 g/100ml •: mg/l (insoluble) 5.4-8.4 •: 0.17 g/100ml •: 0.015 g/100ml
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: 37000 cP
Viscosity, dynamic	: No data available

9.2. Other information

Minimum ignition energy : <

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reaction with amines in large amounts or under uncontrolled conditions may produce extreme heat with noxious smoke and fumes.

10.4. Conditions to avoid

Overheating.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

carbon oxides (CO and CO₂). Residual monomer.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Trimethylolpropane triacrylate (15625-89-5)	
LD50 oral rat	5190 mg/kg (Rat)
LD50 dermal rabbit	5170 mg/kg (Rabbit)
ATE US (oral)	5190.000 mg/kg body weight
ATE US (dermal)	5170.000 mg/kg body weight
Neopentyl Glycol Diglycidyl Ether (17557-23-2)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2150 mg/kg

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Bisphenol-A Epoxy resin (25068-38-6)	
LD50 oral rat	≥ 15000 mg/kg
LD50 dermal rat	23000 mg/kg

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: Not expected to present a respiratory hazard under ambient conditions of normal industrial use. Inhalation of vapors may cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction. May cause sensitization by skin contact. Repeated or prolonged contact may cause injury to skin.
Symptoms/injuries after eye contact	: Causes serious eye irritation. Inflammation/damage of the eye tissue. Swelling and conjunctivitis.
Symptoms/injuries after ingestion	: Gastrointestinal complaints. Nausea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

Bisphenol-A Epoxy resin (25068-38-6)	
LC50 fish 1	2 mg/l (96 h; Oncorhynchus mykiss; Lethal)
EC50 Daphnia 1	2.8 mg/l (48 h; Daphnia magna; Locomotor effect)
LC50 fish 2	2.3 mg/l (96 h; Oncorhynchus mykiss; Nominal concentration)
EC50 Daphnia 2	1.8 mg/l (48 h; Daphnia magna)
ErC50 (algae)	>= 11 mg/l Scenendesmus Growth rate inhibition carpicornrutum (fresh water algae)

Alkyl glycidyl ether (68609-97-2)	
EC50 Daphnia 1	10 mg/l

12.2. Persistence and degradability

Trimethylolpropane triacrylate (15625-89-5)	
Persistence and degradability	Biodegradability in water: no data available.
ThOD	1.835 g O ₂ /g substance

Neopentyl Glycol Diglycidyl Ether (17557-23-2)	
Persistence and degradability	Biodegradability in water: no data available.

Bisphenol-A Epoxy resin (25068-38-6)	
Persistence and degradability	Not readily biodegradable in water. Hydrolysis in water. Low potential for adsorption in soil.

12.3. Bioaccumulative potential

Trimethylolpropane triacrylate (15625-89-5)	
Bioaccumulative potential	No bioaccumulation data available.

Neopentyl Glycol Diglycidyl Ether (17557-23-2)	
Bioaccumulative potential	No bioaccumulation data available.

Bisphenol-A Epoxy resin (25068-38-6)	
BCF fish 1	100 - 3000
Log Pow	3.242 @ 25 deg C, estimated

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Bisphenol-A Epoxy resin (25068-38-6)

Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
---------------------------	------------------------------------------------

12.4. Mobility in soil

Bisphenol-A Epoxy resin (25068-38-6)

Surface tension	0.0 587-0.0589, 20 °C
-----------------	-----------------------

12.5. Other adverse effects

Effect on global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Landfilling of free liquid not recommended. Fuels burning or incineration preferred for material disposed of in "as sold" condition if regulations permit.

Waste disposal recommendations : Collect all waste in suitable and labeled containers and dispose according to local legislation.

Additional information : Industrial waste. Landfilling of free liquid not recommended. Fuels burning or incineration preferred for material disposed of in "as sold" condition if regulations permit.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (Bisphenol-A Epoxy Resin), 9, III

UN-No.(DOT) : UN3082

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
Bisphenol-A Epoxy Resin

Transport hazard class(es) (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Packing group (DOT) : III - Minor Danger

Dangerous for the environment : Yes

Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Symbols : G - Identifies PSN requiring a technical name

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

- DOT Special Provisions (49 CFR 172.102) : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.
146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.
173 - An appropriate generic entry may be used for this material.
335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 155
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No limit
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No limit
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- Other information : No supplementary information available.

TDG

No additional information available

Transport by sea

- UN-No. (IMDG) : 3082
- Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Class (IMDG) : 9 - Miscellaneous dangerous compounds
- Packing group (IMDG) : III - substances presenting low danger

Air transport

- UN-No. (IATA) : 3082
- Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.
- Class (IATA) : 9 - Miscellaneous Dangerous Goods
- Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Encore Rail Systems, Inc. 12000HV Resin (None - mix)

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
-------------------------------------	---------------------------------

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) 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.

Neopentyl Glycol Diglycidyl Ether (17557-23-2)

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
--------------------------	----------------------------------------------------------------------------------------

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Bisphenol-A Epoxy resin (25068-38-6)	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)).
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

15.2. International regulations

CANADA

Encore Rail Systems, Inc. 12000HV Resin (None - mix)	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm (silicon dioxide, ethylbenzene)

SECTION 16: Other information

Abbreviations and acronyms

: N.A. - Not Applicable
N.E. - Not Established
N.D. - Not Determined
ACGIH = American Conference of Governmental Industrial Hygienists
OSHA = US Occupational Health and Safety Administration
TLV-TWA = Threshold Limit Value-Time Weighted Average (8 hrs)
STEL = Short-Term Exposure Limit (15 min)
C = Ceiling Value
PEL = Permissible Exposure Limit
OEL = Occupational Exposure Limit
IDLH = Immediately Dangerous to Life and Health
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
PNEC = Predicted No Effect Concentration
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NOAEC = No Observed Adverse Effect Concentration.

Other information

: DISCLAIMER: To the best of our knowledge, the information contained in this MSDS is accurate or is obtained from sources believed to be accurate. However, no liability, expressed or implied, is assumed for the accuracy or completeness of the information contained herein. Buyer assumes liability in its use of the material.

Full text of H-phrases:

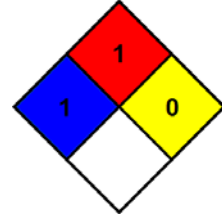
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Encore Rail Systems, Inc. 12000HV Epoxy Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 1 - Must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
- Personal Protection : C
C - Safety glasses, Gloves, Synthetic apron

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product