

Safety Data Sheet

EVO Waterborne Hardener



1. Identification

Product identifier	EVO Waterborne Hardener
Product code	EWH5
Other means of identification	N.Av.
Recommended use of the chemical and restrictions on use	Hardener. Not recommended for any other use not detailed on product data sheet or label.
Manufacturer	GEMINI INDUSTRIES, INC. 2300 Holloway Drive El Reno, OK 73036 USA Tel. 1-800-262-5710 Fax 1-405-262-9310 http://www.gemini-coatings.com/
Emergency phone number	24-hour Emergency (Spill, Leak, Exposure or Accident) INFOTRAC 800-535-5053 Outside USA, Call Collect 1-352-323-3500 (French & English) HAZMAT Response and Safety Data Sheet Help: EMI 800-510-8510

2. Hazard identification

Summary	Flammable liquid. Keep away from heat, sparks and open flame. Avoid contact with skin, eyes and clothing. Do not breathe vapors. Do not ingest. If medical advice is needed, have this SDS or label at hand. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved.
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WHMIS 2015/GHS/OSHA HCS 2012



Flammable liquids (Category 3)
Respiratory sensitizer (Category 1)
Skin sensitizer (Category 1)
Carcinogenicity (Category 2)
Specific target organ toxicity, single exposure (Category 3)
Specific target organ toxicity, repeated exposure (Category 2)

DANGER

- H226: Flammable liquid and vapour
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H317: May cause an allergic skin reaction
- H335: May cause respiratory irritation
- H351: Suspected of causing cancer
- 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 and other ignition sources. No smoking.
- P240: Ground or bond container and receiving equipment.
- P241: Use explosion-proof electrical equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.

P260: Do not breathe vapours and spray.
 P271: Use only outdoors or in a well-ventilated area.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P280: Wear protective gloves, protective clothing and eye protection.
 P284: In case of inadequate ventilation, wear respiratory protection.
 P308+313: IF exposed or concerned: Get medical attention.
 P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 P333+313: If skin irritation or a rash occurs: Get medical advice or attention.
 P304+340+P312: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
 P342+311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 P362+364: Take off contaminated clothing and wash before reuse.
 P370+378: In case of fire: Use chemical foam, dry chemical or carbon dioxide to extinguish.
 P403+P235+P233: Store in a well-ventilated place. Keep container tightly closed. Keep cool.
 P405: Store locked up.
 P501: Dispose of contents and container to a licensed chemical disposal agency in accordance with local, regional and national regulations.

3. Composition/information on ingredients

Common name	CAS	Weight % content
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, polyethylene glycol mono-Me ether-blocked	191427-71-1	15 - 60 %
Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer	666723-27-9	10 - 30 %
Xylene	1330-20-7	5 - 10 %
Ethylbenzene	100-41-4	1 - 5 %
Isophorone diisocyanate	4098-71-9	0.1 - 1 %

Note: The manufacturer withholds the actual concentration range of the ingredients as a trade secret.

4. First-aid measures

Inhalation	Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. If a problem develops or persists, seek medical attention.
Skin contact	Wash skin with warm water and mild soap. Remove contaminated clothing and wash before reuse. If a problem develops or persists, seek medical attention.
Eye contact	IMMEDIATELY! Flush with water for at least 15 minutes. Remove contact lenses if easy to do. Hold eyelids apart to rinse properly. If a problem develops or persists, seek medical attention.
Ingestion	DO NOT induce vomiting, unless recommended by medical personnel. Never give anything by mouth if victim is unconscious or convulsing. If victim is conscious wash out mouth with water and give 1-2 glasses of water to drink. If spontaneous vomiting occurs, keep head below hip level to prevent aspiration into the lungs. Seek medical attention or contact a Poison Centre immediately.
Other	No additional information.
Symptoms	May cause slight irritation to skin and eyes. May cause respiratory tract irritation. May cause an allergic respiratory and skin reaction.
Notes to the physician	Treat symptomatically. If gastric lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the

5. Fire-fighting measures

Suitable extinguishing media	Dry chemicals, chemical foam, carbon dioxide (CO ₂).
Specific hazards arising from the chemical	Flammable liquid and vapours. May be ignited by heat, sparks, flame or static electricity.
Special protective equipment	Firefighters must wear self contained breathing apparatus with full face mask. Firefighting suit may not be efficient against chemicals.
Special protective actions for fire-fighters	Use water spray to cool fire-exposed containers. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Do not touch spilled material. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet.
Environmental precautions	Prevent entry into sewers, closed areas and release to the environment. For a large spill, consult the Department of Environment or the relevant authorities.
Methods and materials for containment and cleaning up	Remove sources of ignition. Ventilate the area well. Absorb with inert material (soil, sand, vermiculite) and place in an appropriate waste disposal clearly identified. Use non-sparking and antistatic tools. Dispose via a licensed waste disposal contractor. Finish cleaning the contaminated surface by rinsing with soapy water.

7. Handling and storage

Precautions for safe handling	Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Keep away from heat, sparks and open flame. Turn off all pilot lights, flames, stoves, heaters, electric motors, welding equipment and other sources of ignition. Avoid accumulating electrostatic charge. Use non-sparking and antistatic tools. Use only in well ventilated area. Avoid contact with skin, eyes and clothing. Do not breathe vapors. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved. Keep containers tightly closed when not in use. Do not eat, do not drink and do not smoke during use. After use, wash hands with soap and water. Wash contaminated clothing before reuse.
Conditions for safe storage, including any incompatibilities	Storage and handling should follow the NFPA 30 Flammable and/or Combustible Liquids Code and the National Fire Code of Canada (NFCC). Store tightly closed and in properly labelled container in a dry, cool and well ventilated place. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store away from oxidizing materials and incompatible materials (see section 10). Keep away from direct sunlight and heat.
Storage temperature	15 to 25°C (59 to 77°F)

8. Exposure controls/personal protection

Immediately Dangerous to Life or Health	Xylenes: 900 ppm. Ethylbenzene: 800 ppm.		
Xylene	STEL	150 ppm	ACGIH , BC, ON
		150 ppm	651 mg/m ³ RSST
	TWA (8h)	100 ppm	ACGIH , BC, ON
		100 ppm	435 mg/m ³ RSST
Ethylbenzene	TWA (8h)	20 ppm	ACGIH , BC, ON, RSST
Isophorone diisocyanate	Ceiling	0.01 ppm	BC
		0.02 ppm	ON
	TWA (8h)	0.005 ppm	ACGIH , BC, ON
		0.005 ppm	0.045 mg/m ³ RSST
Appropriate engineering controls	Provide sufficient mechanical ventilation (general or local exhaust) to keep the airborne concentrations of vapours, mists, aerosols or dust below their respective occupational exposure limits.		
Individual protection measures			
Eye	DO NOT wear contact lenses. In the workplace, wear safety glasses with side shields. If risk of contact with eyes or/and the face wear chemical splash goggles and/or a face shield.		
Hands	Wear nitrile or neoprene gloves. Before using, user should confirm impermeability. Discard gloves with tears, pinholes, or signs of wear. Gloves must only be worn on clean hands.		
Skin	Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Wear normal work clothing covering arms and legs as required by employer code. If necessary, wear an apron or long-sleeve protective coverall suit.		
Respiratory	Respiratory protection is not required for normal use. Where the conditions in the workplace require a respirator, it is necessary to follow a respiratory protection program. Moreover, respiratory protection equipment (RPE) must be selected, fitted, maintained and inspected in accordance with regulations and standard 29 CFR 1910.134 (OSHA), ANSI Z88.2 or CSA Z 94.11 (Canada) and approved by NIOSH/MSHA. In case of insufficient ventilation or in confined or enclosed space and for an assigned protection factor (APF) up to 10 times the exposure limit, wear a half mask respirator with organic vapour cartridges fitted with P100 filters. For an APF until maximum 100 times of exposure limit, wear a full face respirator mask with organic vapour cartridges and P100 filters.		
Feet	Wear rubber boots to clean up a spill.		

9. Physical and chemical properties

Physical state	Liquid	Flammability	Flammable
Colour	N.Av.	Flammability limits	N/Av.
Odour	Characteristic	Flash point	21 to 55°C (69.8 to 131°F)
Odour threshold	N/Av.	Auto-ignition temperature	>250°C (482°F)
pH	N/Av.	Sensibility to electrostatic charges	Yes
Melting point	<1°C (33.8°F)	Sensibility to sparks and/or friction	No
Freezing point	<1°C (33.8°F)	Vapour density	>1 (Air = 1)

Boiling point	>55°C (131°F)	Relative density	1.0630 kg/L @ 20°C (68°F) (Water = 1)
Solubility	N.Av.	Partition coefficient n-octanol/water	N/Av.
Evaporation rate	N/Av.	Decomposition temperature	N/Av.
Vapour pressure	N/Av.	Viscosity	N/Av.
Percent Wt. Volatile	N/Av.	Molecular mass	N/Av.
VOC (g/L)	N/Av.	% Volume Volatile (VOC)	N/Av.
VOC (lb/gal)	N/Av.	% Wt. Volatile (VOC)	N/Av.
N/Av.: Not Available N/Av.: Not Available Und.: Undetermined N/E: Not Established			

10. Stability and reactivity

Reactivity	No reactivity expected.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions (including polymerizations)	A dangerous reaction will not occur.
Conditions to avoid	Avoid heat, flame and sparks. Avoid accumulating electrostatic charge. Avoid contact with incompatible materials.
Incompatible materials	Strong oxidants.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Numerical measures of toxicity	Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, polyethylene glycol mono-Me ether-blocked	Ingestion >2500 mg/kg Rat	LD50
		Inhalation >5 mg/l/4h Rat	LC50
	Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked	Ingestion >5000 mg/kg Rat	LD50
	1,6-diisocyanatohexane homopolymer	Inhalation 0.39 mg/l/4h Rat	LC50
		Skin >2000 mg/kg Rabbit	LD50
	Xylene	Ingestion 3523 mg/kg Rat	LD50
		Inhalation 27.6 mg/l/4h Rat	LC50
		Skin 3200 mg/kg Rabbit	LD50
	Ethylbenzene	Ingestion 3500 mg/kg Rat	LD50
		Inhalation 17.3 mg/l/4h Rat	LC50
		Skin 15380 mg/kg Rabbit	LD50
	Isophorone diisocyanate	Ingestion 4825 mg/kg Rat	LD50
	Inhalation 0.123 mg/l/4h Rat	LC50	
	Skin 1058 mg/kg Rat	LD50	
Likely routes of exposure	Skin, eyes, inhalation.		


Delayed, immediate and chronic effects	Eye contact	May cause slight irritation, redness, tearing and blurred vision. Eye Irritation/Corrosion, Rabbit: tests performed with each ingredient (>1%) of this mixture are not irritating.
	Skin contact	May cause redness, dryness, rash and slight skin irritation. Prolonged and repeated contact may cause dry skin, irritation or dermatitis. Skin Irritation/Corrosion, Rabbit : tests performed with each ingredient (>1%) of this mixture gave not irritating to irritating results.
	Inhalation	May cause respiratory tract irritation. Overexposure may cause headache, dizziness and nausea. The severity of symptoms may vary depending on exposure conditions. Many reports with painters have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.
	Ingestion	Ingestion can cause abdominal pain, nausea, cramps, headache, dizziness, diarrhea and vomiting.
	Respiratory or skin sensitization	May cause an allergic respiratory and skin reaction. Some ingredients present at levels greater than or equal to 0.1% of this product are skin and/or respiratory sensitizers.
	IARC/NTP Classification	Common name IARC NTP Ethylbenzene 2B - IARC : 1- Carcinogenic; 2A- Probably carcinogenic; 2B- Possibly carcinogenic. NTP : K- Known to be carcinogens; R- Reasonably anticipated to be carcinogens.
	Carcinogenicity	Contains an ingredient possibly carcinogenic to humans (Group 2B, IARC). The risk of cancer depends on duration and level of exposure.
	Mutagenicity	Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause mutagenic effects.
	Reproductive toxicity	Xylene (CAS no 1330-20-7) overexposure may affect fetal development in laboratory animals by inhalation during pregnancy.
	Specific target organ toxicity - single exposure	Central nervous system.
Specific target organ toxicity - repeated exposure	Central nervous system, hearing organs, kidneys, liver.	
Interactive effects	No information available for this product.	
Other information	The oral and skin acute toxicity estimates (ATE) of the mixture were calculated to be greater than 2000 mg/kg. The acute toxicity estimates (ATE) by inhalation of the mixture were calculated to be greater than 20 mg/L/4h for vapours and to be greater than 5 mg/L/4h for the aerosols and mists. These values are not classified according to WHMIS 2015 and OSHA HCS 2012.	

12. Ecological information

Ecological toxicity	Crustacea - Water Flea (<i>Daphnia magna</i>)	EC50 >100 mg/L; 24 h (CAS no 191427-71-1)
	Aquatic Plant - Algae, <i>Scenedesmus subspicatus</i>	CE50 > 100 mg/L; 72 h (CAS no 191427-71-1)
	Fish - <i>Oryzias latipes</i>	LC50 42.2 mg/L; 96 h (CAS no 666723-27-9)
	Crustacea - Water Flea (<i>Daphnia magna</i>)	EC50 >100 mg/L; 48 h (CAS no 666723-27-9)
	Algae, <i>Pseudokirchneriella subcapitata</i>	EC50 >100 mg/L; 48 h (CAS no 666723-27-9)
	Fish - <i>Oncorhynchus mykiss</i> - Rainbow trout	LC50 13.5-17.3 mg/L; 96 h (CAS no 1330-20-7)
	Aquatic Invertebrate - <i>Daphnia magna</i>	EC50 3.82 mg/L; 48 h (CAS no 1330-20-7)
	Fish - <i>Oncorhynchus mykiss</i> - Rainbow trout	LC50 4.2 mg/L; 96 h (CAS no 100-41-4)
	Aquatic invertebrate - <i>Crangon franciscorum</i>	EC50 0.49 mg/L; 48 h (CAS no 100-41-4)
Persistence	Not available.	
Degradability	Not available.	
Bioaccumulative	Not available.	

potential	
Mobility in soil	Not available.
Other adverse effects	This chemical does not deplete the ozone layer.


13. Disposal considerations

	Container Important! Prevent waste generation. Use in full. DO NOT dispose residue in sewers, streams or drinking water supply. Residues and empty containers must be considered as hazardous waste. Dispose via a licensed waste disposal contractor. Observe all federal, state/provincial and municipal regulations. If necessary consult the Department of Environment or the relevant authorities.
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14. Transport information

UN Number	UN 1263
UN Proper Shipping Name	PAINT RELATED MATERIAL
Environmental hazards	Contains marine pollutant.
Special precautions for user	Permit required for transportation with proper DANGER placards displayed on vehicle.

TDG - Transportation of Dangerous Goods (Canada & US DOT)

Transport hazard class(es)	 Class 3
Packing group	II

IMO/IMDG - International Maritime Transport

Classification	UN 1263. PAINT RELATED MATERIAL. Class 3, PG II. Emergency schedules (EmS-No) F-E, S-E
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IATA - International Air Transport Association

Classification	UN 1263. PAINT RELATED MATERIAL. Class 3, PG II.
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These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. In addition, if a domestic exemption exists, it is the responsibility of the shipper to define the application of it.

15. Regulatory information

CANADA

Common name	CAS	CEPA	DSL	NDSL	NPRI
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethyl-, homopolymer, polyethylene glycol mono-Me ether-blocked	191427-71-1		X		
Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer	666723-27-9		X		

Common name	CAS	CEPA	DSL	NDSL	NPRI
Xylene	1330-20-7	X	X		X
Ethylbenzene	100-41-4	X	X		X
Isophorone diisocyanate	4098-71-9	X	X		X

- CEPA: List of Toxic Substances Managed Under Canadian Environmental Protection Act
- DSL: Domestic Substances List Inventory
- NDSL: Non-Domestic Substances List Inventory
- NPRI: National Pollutant Release Inventory Substances

UNITED STATE OF AMERICA

Common name	CAS	TSCA	CER CLA	EPCRA 313	EPCRA 302/304	CAA 112(b) HON	CAA 112(b) HAP	CAA 112(r)	CWA 311	CWA Prio.
Cyclohexane, 5-isocyanato-1-(isocyanatomethyl)-1,3,3- trimethyl-, homopolymer, polyethylene glycol mono-Me ether-blocked	191427-71-1	X								
Cyclohexanamine, N,N-dimethyl-, compds. with 3-(cyclohexylamino)-1-propanesulfonic acid-blocked 1,6-diisocyanatohexane homopolymer	666723-27-9	X								
Xylene	1330-20-7	X	X	X		X	X		X	
Ethylbenzene	100-41-4	X	X	X		X	X		X	X
Isophorone diisocyanate	4098-71-9	X		X	X					

- TSCA: Toxic Substance Control Act
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act list of hazardous substances
- EPCRA 313: Emergency Planning and Community Right-to-Know Act, Section 313 Toxic Chemicals
- EPCRA 302/304: Emergency Planning and Community Right-to-Know Act, Section 302/304 Extremely Hazardous Substances
- CAA 112(b) HON: Clean Air Act - Hazardous Organic National Emission Standard for Hazardous Air Pollutant
- CAA 112(b) HAP: Clean Air Act - Hazardous Air Pollutants lists pollutants
- CAA 112(r): Clean Air Act - Regulated Chemicals for Accidental Release Prevention
- CWA 311: Clean Water Act - List of Hazardous Substances
- CWA Priority: Clean Water Act - Priority Pollutant list

California Proposition 65

Common name	CAS	Cancer	Reproductive and Developmental Toxicity
Ethylbenzene	100-41-4	X	

Other regulations

HMIS	NFPA
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; width: 100%; height: 10px; background-color: blue; margin-bottom: 2px;"></div> <div style="display: flex; width: 100%; height: 10px; background-color: red; margin-bottom: 2px;"></div> <div style="display: flex; width: 100%; height: 10px; background-color: yellow;"></div> <div style="margin-top: 5px;">○ Protective Equipment</div> </div>	

16. Other information

Date (YYYY-MM-DD)	GEMINI INDUSTRIES, INC. 2021-06-30
Version	01
Other information	<p>P.S.: The SIMDUT 2015/GHS hazards classification in this SDS is provided by the manufacturer using a Worst-Case Scenario.</p> <p>REFERENCES:</p> <ul style="list-style-type: none">- Haz-Map, Information on Hazardous Chemicals and Occupational Diseases, https://haz-map.com/- Service du répertoire toxicologique de la Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), https://www.cnesst.gouv.qc.ca/fr- NIOSH Pocket Guide to Chemical Hazards, Centers for Disease Control and Prevention, NIOSH Publications, 2007, http://www.cdc.gov/niosh/npg/npg.html- The National Center for Biotechnology Information, National Institutes of Health (NIH), U.S. National Library of Medicine, https://pubchem.ncbi.nlm.nih.gov <p>ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Association HMIS: Hazardous Materials Identification System NFPA: National Fire Protection Association OSHA: Occupational Safety and Health Administration (USA) NIOSH: National Institute for Occupational Safety and Health NTP: National Toxicology Program RSST: Règlement sur la santé et la sécurité du travail (Québec) GHS: Globally Harmonized System IARC: International Agency for Research on Cancer IDLH: Immediately Dangerous to Life or Health STEL: Short Term Exposure Limit (15 min) TWA: Time Weighted Averages WHMIS: Workplace Hazardous Materials Information System</p> <p>To the best of our knowledge, the information contained herein is accurate. However, neither Preventis System, nor the above named supplier, nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.</p>