

SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

EPIKURETM Curing Agent 3164

Section 1. Product and company identification

GHS product identifier MSDS Number Product type Material uses	::	EPIKURE™ Curing Agent 3164 K814D Curing Agent Curing Agent - Epoxy Resin Systems
Manufacturer/Supplier/Importer	:	Westlake Epoxy Inc. 12650 DIRECTORS DR STE 100 Stafford, Texas 77477 USA
Contact person Telephone	:	epoxyservice@westlake.com For additional health and safety or regulatory information, call 1 888 443 9466.
Emergency telephone number	:	For Emergency Medical Assistance Call Health & Safety Information Services 1-866-303-6949 For Emergency Transportation Information NCEC US Domestic +1 866 928 0789 (toll-free, US only) NCEC Americas +1 215 207 0061 CANUTEC CA Domestic (613) 996-6666

Section 2. Hazards identification

Classification of the substance or mixture	:	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITISATION - Category 1 REPRODUCTIVE TOXICITY - Category 2 REPRODUCTIVE TOXICITY - Category 2
GHS label elements		
Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	 H315 Causes skin irritation. H318 Causes serious eye damage. H317 May cause an allergic skin reaction. H361f Suspected of damaging fertility. H361d Suspected of damaging the unborn child.

Precautionary statements

General	:	Not applicable.
Prevention	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
Response	:	IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Other hazards which do not result in classification	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	% by weight	CAS
		number
Alicyclic Aliphatic Polyamine (Proprietary)	50 - 75	* *
Alkylphenol (Proprietary)	10 - 25	* *
Alkyletheramine (Proprietary)	10 - 23	* *

Any concentration shown as a range is to protect confidentiality or is due to batch variation. ** The specific chemical identity/proportion of this component is considered trade secret information in accordance with 29 CFR 1910.1200. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact Inhalation	:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	:	Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	:	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	No specific treatment.
Protection of first aid personnel	:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly

with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Unsuitable extinguishing media	:	Use an extinguishing agent suitable for the surrounding fire. None known.
Specific hazards arising from the chemical Hazardous thermal decomposition products	:	In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon oxides nitrogen oxides
Special protective actions for fire- fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self- contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel For emergency responders	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and material for containment	and	cleaning up
Small spill Large spill	:	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non- combustible, absorbent material e.g. sand, earth, vermiculite or

diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Alicyclic Aliphatic Polyamine (Proprietary)	None.
Alkyletheramine (Proprietary)	None.
Alkylphenol (Proprietary)	None.

Recommended monitoring

If this product contains ingredients with exposure limits, personal,

:

procedures	workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of
Appropriate engineering controls	 hazardous substances will also be required. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures	
Hygiene measures Eye/face protection	 Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face
	shield. If inhalation hazards exist, a full-face respirator may be required instead.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	 Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	 Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state Color	:	Liquid Reddish-brown
Odor Odor threshold	:	amine. Not available
рН	:	Not available
Melting point/ Freezing point	:	Not available
Boiling point	:	207 - 220 °C (405 - 428 °F)
Flash point	:	Estimated. 100 °C (212 °F)
Burning time Burning rate Evaporation rate	:	Not available Not available Not determined
Flammability (solid, gas) Lower and upper explosive (flammable) limits	:	Not available Lower: Not available Upper: Not available
Vapor pressure	:	Not available
Vapor density	:	Greater than 1 [Air = 1]
Relative density Density	:	Not available 980 kg/m3
Solubility Solubility in water	:	Not available Partial
Partition coefficient: n- octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature SADT Viscosity	::	Not available Not available Dynamic: 8,200 mPa·s @ 25 °C (77 °F)
		Kinematic: Not available

Other information

No additional information.

Section 10. Stability and reactivity

Reactivity

: Stable under normal conditions.

Chemical stability

: The product is stable.

Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	
Alkyletheramine (Proprietary	r)				
	LD50 Oral	Rat	1,100 mg/kg	-	
	LD50 Oral	Rat	460 mg/kg	-	
	LD50 Dermal	Rabbit	1,550 mg/kg	-	
Alkylphenol (Proprietary)					
	LD50 Oral	Rat	> 2,000 mg/kg	-	
	LC50 Inhalation	Rat	> 5 mg/l	4 h	
	LD50 Dermal	Rabbit	2,290 mg/kg	-	
Conclusion/Summary	: Not	available			

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Alkyletheramine (Proprietary)	eyes - Severe irritant	Rabbit			-
Alkylphenol (Proprietary)	eyes - Severe irritant	Rabbit		24 hrs	-
	Skin - Mild irritant	Rabbit		4 hrs	-
	eyes - Severe irritant	Rabbit			-

49 CFR 173.136 & 137

Rabbit

Conclusion/Summary

eyes Respiratory

Respirator

Sensitization

Conclusion/Summary Skin

Respiratory

Not availableNot available

Not available

Not available

Mutagenicity

:

:

:

Moderate Skin Irritant

Conclusion/Summary	:	Not available
<u>Carcinogenicity</u>		
Conclusion/Summary	:	Not available
<u>Reproductive toxicity</u>		
Conclusion/Summary	:	Not available
Teratogenicity		
Conclusion/Summary	:	Not available
Specific target organ toxicity (single Not available	e exp	oosure)
Specific target organ toxicity (repeation Not available	ated (exposure)
Aspiration hazard Not available		
Information on likely routes of exposure	:	Not available
Potential acute health effects		
Eye contact Inhalation Skin contact Ingestion	::	Causes serious eye damage. No known significant effects or critical hazards. Causes skin irritation. May cause an allergic skin reaction. No known significant effects or critical hazards.
Symptoms related to the physical, ch	emic	al and toxicological characteristics
Eye contact	:	Adverse symptoms may include the following: pain watering redness
Inhalation	:	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths
Skin contact	:	skeletal malformations Adverse symptoms may include the following: pain or irritation redness
Ingestion	:	blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure		
Potential immediate effects Potential delayed effects	:	Not available Not available
Long term exposure		
Potential immediate effects Potential delayed effects	:	Not available Not available
Potential chronic health effects		
Conclusion/Summary	:	Not available
General	:	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	Suspected of damaging the unborn child.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	Suspected of damaging fertility.
Numerical measures of toxicity		

Numerical measures of toxicity

Acute toxicity estimates

No data available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Alkylphenol (Proprietary)			
	Acute LC50 5,140 µg/l Fresh water	Fish - Fish	96 h
	Acute EC50 3,900 µg/l Fresh water	Aquatic invertebrates. Daphnia	48 h
	Chronic No-observable-effect- concentration 2.3 mg/l Fresh water	Fish - Fish	28 d

Conclusion/Summary

: Not available

Persistence/degradability

Conclusion/Summary

Not available

:

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Alkyletheramine (Proprietary)	1.34	-	low

Alkylphenol (Proprietary)	3		44.00 - 48.00	low
<u>Mobility in soil</u>				
Soil/water partition coefficient	:	Not available		
(KOC)				
Other adverse effects	:	TSCA SNUR restri	ctions limit releases to	water to less than 1 ppb

(parts per billion).

Section 13. Disposal considerations

Disposal methods	:	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.TSCA SNUR restrictions limit releases to water to less
		than 1 ppb (parts per billion).

Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International tra Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR		Non-regulated		
TDG		Non-regulated		
IMO/IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALYCYCLIC ALIPHATIC POLYAMINE (Low Vis))	Class 9 III	
IATA (Cargo)	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALYCYCLIC ALIPHATIC POLYAMINE (Low Vis))	Class 9 III	

CFR NOT REGULATED FOR TRANSPORT

*PG : Packing group

Environmentally hazardous and/or Marine Pollutant : Yes.

:

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

U.S. Federal regulations	:	United States - TSCA 12(b) - Chemical export notification: The following components are listed: Alicyclic Aliphatic Polyamine
		(Proprietary)
		United States - TSCA 5a2 - Final significant new use rules: Listed
		Alicyclic Aliphatic Polyamine (Proprietary)
		United States - TSCA 5a2 - Proposed significant new use rules: Not
		listed
		United States - TSCA 5(e) - Substances consent order: Not listed
		SARA 311/312 Classification - SKIN IRRITATION, Category 2
		SARA 311/312 Classification - SERIOUS EYE DAMAGE, Category 1
		SARA 311/312 Classification - SKIN SENSITISATION, Category 1
		SARA 311/312 Classification - REPRODUCTIVE TOXICITY, Fertility,
		Category 2
		SARA 311/312 Classification - REPRODUCTIVE TOXICITY, Unborn child, Category 2
		SARA 311/312 Classification - Not applicable

California Prop. 65:

This product does not require a Safe Harbor warning under California Prop. 65.

United States inventory (TSCA 8b)	:	All components	are active or	exempted.			
Trade Secret		The claim for tr April 1, 2017.	ade secret has	been filed in Canada under HM	vIIRC #11215,		
International regulations							
International lists: Canada inventory: At least one component is not listed in DSL but all such components are listed in NDSL. Japan inventory: Not determined. China inventory (IECSC): All components are listed or exempted. Korea inventory (KECI): Not determined.							
Version: 12.0 Date	of issue	Date of revision:	09/22/2022	Date of previous issue:	10/08/2020		

New Zealand Inventory (NZIoC): Not determined. Philippines inventory (PICCS): Not determined. United States inventory (TSCA 8b): All components are active or exempted. Australia inventory (AIIC): Not determined. Taiwan inventory (TCSI): All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System III (U.S.A.):

()				
Health	*	3		
Flammability		1		
Physical hazards		0		

Caution: HMIS[®] ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS[®] ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS[®] ratings are to be used with a fully implemented HMIS[®] program. HMIS[®] is a registered mark of the National Paint & Coatings Association (NPCA). HMIS[®] materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material. For more information on HMIS[®] Personal Protective Equipment (PPE) codes, consult the HMIS[®] Implementation Manual.

Full text of abbreviated H statements	:	Not applicable.
<u>History</u>		
Date of printing Date of issue/Date of revision Date of previous issue Version Prepared by Key to abbreviations		01/30/2023 09/22/2022 10/08/2020 12.0 Product Safety Stewardship ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail UN = United Nations Not available
References	:	Not available

Notice to reader

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.