

SAFETY DATA SHEET

Section 1. Product and company identification

Product name	CUVAN® 313	<u>In case of emergency</u>
Code	12739	1-203-853-1400
Supplier/Manufacturer	Vanderbilt Chemicals, LLC 30 Winfield Street Norwalk, CT 06855	Chemtrec: 1-800-424-9300 Outside US: +1-703-527-3887
Chemical name	N,N-bis(2-ethylhexyl)-((1,2,4-triazol-1-yl)methyl)amine	
Synonym	1H-1,2,4-Triazole-1-methanamine, N,N-bis(2-ethylhexyl)-	
Material uses	Lubricant Additive	
Product type	Liquid.	

Section 2. Hazards identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A

GHS label elements

Hazard pictograms



Signal word

Danger

Hazard statements

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary statements

Prevention

Wear protective gloves. Wear protective clothing: Recommended: 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.
Wear eye or face protection: Recommended: splash goggles. Avoid breathing vapor.
Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or 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 doctor.

Section 2. Hazards identification

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

None known.

Section 3. Composition/information on ingredients

Substance/mixture

Substance

Ingredient name	CAS number	% by weight
N,N-bis(2-ethylhexyl)-((1,2,4-triazol-1-yl)methyl)amine	91273-04-0	100

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

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.

Inhalation

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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

Causes serious eye damage.

Inhalation

No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact Causes severe burns. May cause an allergic skin reaction.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:
pain
watering
redness

Inhalation No specific data.

Skin contact Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion Adverse symptoms may include the following:
stomach pains

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

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

Protection of first-aiders 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 In case of fire, use water spray (fog), foam, dry chemical or CO₂.

Unsuitable extinguishing media Do not use water jet.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
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

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.

For emergency responders

If specialized 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 materials for containment and cleaning up

Small 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.

Large spill

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). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. 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) 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls

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

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.

Eye/face protection

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. Recommended: splash goggles

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.

Recommended: butyl rubber, nitrile rubber

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. Recommended: 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. Recommended: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.

Personal protective equipment (Pictograms)



Section 8. Exposure controls/personal protection

Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Clear Pale Yellow.
Odor	Not available.
Odor threshold	Not available.
pH	7.6
Melting point	Not available.
Boiling point	315°C (599°F)
Flash point	Closed cup: 158°C (316.4°F)
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	0.0000095 kPa (0.000071 mm Hg)
Vapor density	Not available.
Density	0.91 g/cm ³ [25°C (77°F)]
Relative density	Not available.
Solubility	Not available.
Solubility in water	0.058 g/l
Partition coefficient: n-octanol/water	5.3
Auto-ignition temperature	330°C (626°F)
Decomposition temperature	Not available.
SADT	Not available.
Viscosity	Not available.

Section 10. Stability and reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
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	Avoid electrostatic discharge.
Incompatible materials	Strong acids, strong bases, strong oxidizing agents.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 10. Stability and reactivity

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
N,N-bis(2-ethylhexyl)- (1,2,4-triazol-1-yl)methyl amine	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	2356 mg/kg	-

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin

N,N-bis(2-ethylhexyl)-((1,2,4-triazol-1-yl)methyl)amine: Causes severe skin burns.

Eyes

N,N-bis(2-ethylhexyl)-((1,2,4-triazol-1-yl)methyl)amine: Causes serious eye damage.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
N,N-bis(2-ethylhexyl)- (1,2,4-triazol-1-yl)methyl amine	skin	Guinea pig	Sensitizing

Mutagenicity

Product/ingredient name	Test	Experiment	Result
N,N-bis(2-ethylhexyl)- (1,2,4-triazol-1-yl)methyl amine	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact

Causes serious eye damage.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes severe burns. May cause an allergic skin reaction.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
pain
watering
redness

Inhalation

No specific data.

Skin contact

Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion

Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Long term exposure

Potential immediate effects

Not available.

Potential delayed effects

Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl amine	Sub-acute NOEL Oral	Rat	60 mg/kg	28 days

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

No known significant effects or critical hazards.

Developmental effects

No known significant effects or critical hazards.

Fertility effects

No known significant effects or critical hazards.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl amine	EC50 100 mg/l	Micro-organism	3 hours
	Acute EC50 >1 mg/l	Algae	72 hours
	Acute EC50 2.2 mg/l	Daphnia	48 hours
	Acute LC50 1.1 mg/l	Fish	96 hours
	Acute NOEC 0.32 mg/l	Algae	72 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl amine	OECD 301B	5 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl amine	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl amine	5.3	-	high

Mobility in soil

Soil/water partition coefficient (K_{oc})

Not available.

Other adverse effects

No known significant effects or critical hazards.









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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Contains N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl)amine)	8	II		-
TDG Classification	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Contains N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl)amine)	8	II		-
ADR/RID Class	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Contains N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl)amine)	8	II	 	Remarks Marine pollutant
IMDG Class	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Contains N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl)amine)	8	II	 	Remarks Marine Pollutant
IATA-DGR Class	UN3267	CORROSIVE LIQUID, BASIC, ORGANIC, N. O.S. (Contains N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methyl)amine)	8	II	 	-

Section 14. Transport information

PG* : Packing group

Section 15. Regulatory information

[United States Inventory \(TSCA 8b\)](#) All components are active or exempted.

[U.S. Federal regulations](#)

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

CERCLA: Hazardous substances.: Formaldehyde: 100 lbs. (45.4 kg);

Clean Water Act (CWA) 311: Formaldehyde

Clean Air Act Section 112 Listed

(b) Hazardous Air Pollutants (HAPs)

[SARA 302/304](#)

[Composition/information on ingredients](#)

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
formaldehyde	0.001	Yes.	500	73.6	100	14.7

SARA 304 RQ 10000000 lbs / 4540000 kg [1317957.3 gal / 4989011 L]

[SARA 311/312](#)

Classification

SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1A

[Composition/information on ingredients](#)

Name	%	Classification
N,N-bis(2-ethylhexyl)-(1,2,4-triazol-1-yl)methylamine	100	SKIN CORROSION - Category 1B SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A

[State regulations](#)

Massachusetts

None of the components are listed.

New York

None of the components are listed.

New Jersey

None of the components are listed.

Pennsylvania

None of the components are listed.

California Prop. 65



WARNING: This product can expose you to Formaldehyde (Gas), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name

No significant risk level

Maximum acceptable dosage level

Formaldehyde (Gas)	Yes.	-
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[International regulations](#)

Australia Inventory (AIIIC)

All components are listed or exempted.

Canada Inventory

All components are listed or exempted.

Section 15. Regulatory information

China Inventory (IECSC)	All components are listed or exempted.
Europe inventory	All components are listed or exempted.
Japan Inventory (CSCL)	All components are listed or exempted.
Korea inventory (KECI)	All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	All components are listed or exempted.
Philippines Inventory (PICCS)	All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	All components are listed or exempted.

Section 16. Other information

[Hazardous Material Identification System \(U.S.A.\)](#)

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. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material.

[National Fire Protection Association \(U.S.A.\)](#)



Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

[History](#)

Date of printing	11/13/2023
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Version	3

Section 16. Other information

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate 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)
UN = United Nations

References

Not available.

Information contact

Vanderbilt Global Services, LLC
Corporate Risk Management
1-203-295-2143

Visit www.vanderbiltchemicals.com for more information.

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