

SAFETY DATA SHEET

GHS
United States

Section 1. Product and company identification

Product name	VANOX® 961	<u>In case of emergency</u>
Code	53525	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	benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	
Synonym	Not available.	
Material uses	Antioxidant.	
Product type	Liquid.	

Section 2. Hazards identification

OSHA/HCS status	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Classification of the substance or mixture	Not classified.
GHS label elements	
Signal word	No signal word.
Hazard statements	No known significant effects or critical hazards.
Precautionary statements	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Hazards not otherwise classified	None known.

Section 3. Composition/information on ingredients

Substance/mixture Substance

Ingredient name	CAS number	% by weight
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	184378-08-3	>99
diphenylamine	122-39-4	<1

Section 3. Composition/information on ingredients

This material is chemically equivalent to CAS # 68411-46-1

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	No specific data.
Inhalation	No specific data.
Skin contact	No specific data.
Ingestion	No specific data.

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-aiders	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.

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

Section 5. Fire-fighting measures

Hazardous thermal decomposition products

No specific data.

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.

Remark

Can emit irritating or toxic substances upon burning, combustion and decomposition.

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. 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. 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. 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).

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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

Do not store below the following temperature: 22°C (71.6°F). 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. 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
diphenylamine	ACGIH TLV (United States, 1/2011). TWA: 10 mg/m ³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 10 ppm 8 hours. NIOSH REL (United States, 6/2009). TWA: 10 mg/m ³ 10 hours.

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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. 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: safety glasses with side-shields. 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.

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: lab coat

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

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 8. Exposure controls/personal protection

Personal protective equipment (Pictograms)



Section 9. Physical and chemical properties

Appearance

Physical state	Liquid.
Color	Yellow to reddish brown.
Odor	Amine. [Slight]
Odor threshold	Not available.
pH	Not available.
Melting point	Not available.
Boiling point	>275°C (>527°F)
Flash point	Closed cup: 180°C (356°F) [Pensky-Martens.]
Burning time	Not applicable.
Burning rate	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Can emit irritating or toxic substances upon burning, combustion and decomposition.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	0.96 to 0.99
Solubility	Insoluble in the following materials: cold water.
Solubility in water	Not available.
Partition coefficient: n-octanol/water	>5
Auto-ignition temperature	Not available.
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	Incompatible with heat, flames, sparks, ignition sources.
Incompatible materials	Keep away from: Strong acids, strong oxidants and high heat.

Section 10. Stability and reactivity

Hazardous decomposition products	carbon monoxide carbon dioxide aliphatic hydrocarbons aromatic hydrocarbons nitrogen oxides
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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	Eyes - Mild irritant	Rabbit	-	-	-

Conclusion/Summary

Skin	benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene: Non-irritating to the skin. (Rabbit)
Eyes	Not available.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	skin	Guinea pig	Not sensitizing

Skin	Not available.
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Mutagenicity

Product/ingredient name	Test	Experiment	Result
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	OECD 471	Experiment: In vitro Subject: Bacteria	Negative

Carcinogenicity

Conclusion/Summary	Not available.
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Section 11. Toxicological information

Reproductive toxicity

Conclusion/Summary

benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene: A combined repeated-dose/reproductive/developmental toxicity screening test in rats via gavage was conducted at levels of 25, 75 and 225 mg/kg/bw/day. Values observed for fertility were NOEL >= 225 mg/kg/day. Values observed for maternal toxicity were NOAEL = 25 mg/kg/day. Values observed for developmental toxicity were NOAEL = 225 mg/kg/day.

Teratogenicity

Conclusion/Summary

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral.

Potential acute health effects

Eye contact

No known significant effects or critical hazards.

Inhalation

No known significant effects or critical hazards.

Skin contact

No known significant effects or critical hazards.

Ingestion

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

No specific data.

Inhalation

No specific data.

Skin contact

No specific data.

Ingestion

No specific data.

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

Conclusion/Summary

Diphenylamines: Overexposure to vapors from heating the product may cause eye and/or skin irritation, and respiratory tract irritation with symptoms such as, but not limited to, dizziness and flu-like symptoms.

General

No known significant effects or critical hazards.

Carcinogenicity

No known significant effects or critical hazards.

Section 11. Toxicological information

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.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information

benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene: Based on available data, the classification criteria for specific target organ toxicity (STOT) repeated exposure are not met.

A combined repeated-dose/reproductive/developmental toxicity screening test in rats via gavage was conducted at levels of 25, 75 and 225 mg/kg/bw/day. No deaths or treatment-related signs of toxicity, behavioral assessments, functional performance or sensory reactivity were noted at any dose. Hepatic toxicity was noted for animals in both sexes at 225 mg/kg bw/day.

Repeated dose toxicity study, rat, gavage, 28 days: LOEL = 125 mg/kg bw/day

Section 12. Ecological information

Ecotoxicity

Product/ingredient name	Result	Species	Exposure
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	Acute EC50 >100 mg/l	Algae	72 hours
	Acute EC50 51 mg/l	Daphnia	48 hours
	Acute IC50 >100 mg/l	Micro-organism	3 hours
	Acute LC50 >100 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
benzeneamine,-N-phenyl-, reaction product with 2,4,4-trimethylpentene and 2-methylpropene	-	-	Not readily

Partition coefficient: n-octanol/water >5

Bioconcentration factor 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. 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	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

Section 15. Regulatory information

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

[U.S. Federal regulations](#)

TSCA 8(a) PAIR: diphenylamine

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

[SARA 302/304](#)

[Composition/information on ingredients](#)

No products were found.

[SARA 311/312](#)

Classification Not applicable.

[Composition/information on ingredients](#)

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
diphenylamine	<1	No.	No.	No.	Yes.	No.

Section 15. Regulatory information

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	None of the components are listed.

International regulations

This material is chemically equivalent to CAS # 68411-46-1

Europe inventory	All components are listed or exempted.
Canada inventory	All components are listed or exempted.
Australia inventory (AICS)	At least one component is not listed.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory	All components are listed or exempted.
Korea inventory	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.

Section 16. Other information

Hazardous Material Identification System (U.S.A.)	Health	*	1
	Flammability		1
	Physical hazards		0

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

National Fire Protection Association (U.S.A.)



History

Date of printing	9/24/2015
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Date of previous issue	4/21/2014
Version	2
Key to abbreviations	<p>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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations</p>

Section 16. Other information

References	Not available.
Information contact	Vanderbilt Global Services, LLC Corporate Risk Management 1-203-295-2143

Visit www.vanderbiltchemicals.com for more information.

Notice to reader

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