

SUPERIOR Nanowax™
754568

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

| | | |
|--|--|--|
| Ashland P.O. Box 2219 Columbus, OH 43216 | Regulatory Information Number Telephone Emergency telephone number | 1-800-325-3751 614-790-3333 1-800-ASHLAND (1-800-274-5263) |
| Product name | SUPERIOR Nanowax™ | |
| Product code | 754568 | |
| Product Use Description | No data | |

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, tan

WARNING! MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE EYE IRRITATION. HARMFUL IF SWALLOWED.

Potential Health Effects

Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin contact

May cause mild skin irritation. Symptoms may include redness and burning of skin.

Ingestion

Swallowing this material may be harmful. Liver, kidney and brain damage in humans has resulted from swallowing lethal or near-lethal amounts of ethylene glycol.

Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are

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not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: lung (for example, asthma-like conditions), Liver, Kidney, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Cough, central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), lung edema (fluid buildup in the lung tissue), acute kidney failure (sudden slowing or stopping of urine production), liver damage, Convulsions, coma

Target Organs

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: reproductive effects, kidney damage, liver damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: kidney damage, liver damage

Carcinogenicity

This material is not expected to cause cancer in humans since it did not cause cancer in laboratory animals. This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

Ethylene glycol has caused birth defects in animal studies at high oral doses. However, it did not cause harm to the pregnant animal or to the fetus when applied to the skin of the pregnant animal.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

CAS-No.

Concentration

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| | | |
|-----------------|-----------|-----------|
| CARNAUBA WAX | 8015-86-9 | >=1.5-<5% |
| ETHYLENE GLYCOL | 107-21-1 | >=1.5-<5% |

4. FIRST AID MEASURES

Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.

Treatment: This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be

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delayed several hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Carbon dioxide (CO₂), Water spray

Hazardous combustion products

carbon dioxide and carbon monoxide, Alcohols, Aldehydes, ethers, toxic fumes

Precautions for fire-fighting

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Other information

Comply with all applicable federal, state, and local regulations.

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7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective gloves. As with all products of this nature, good personal hygiene is essential. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material. Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage

Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

| | |
|------------------------|---|
| ETHYLENE GLYCOL | 107-21-1 |
| ACGIH | Ceiling Limit Value: 100 mg/m3 Aerosol. |

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection

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Wear resistant gloves (consult your safety equipment supplier).

Respiratory protection

Respiratory protection is not required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| Physical state | liquid |
| Form | no data available |
| Colour | tan |
| Odour | pleasant |
| Boiling point/boiling range | 212 °F / 100 °C @ 1,013.33 hPa Calculated Phase Transition Liquid/Gas |
| Melting point/range | no data available |
| Sublimation point | no data available |
| pH | 5 |
| Flash point | > 201 °F / > 94 °C |
| Ignition temperature | no data available |
| Evaporation rate | no data available |
| Lower explosion limit/Upper explosion limit | no data available |
| Particle size | no data available |
| Vapour pressure | 23.333 hPa @ 68 °F / 20 °C Calculated Vapor Pressure |
| Relative vapour density | no data available |
| Density | 1 g/cm ³ @ 68 °F / 20 °C 8.33 lb/gal |
| Bulk density | No data |
| Water solubility | soluble |
| Solubility(ies) | no data available |
| Partition coefficient: n-octanol/water | no data available |
| log Pow | no data available |
| Autoignition temperature | no data available |
| Viscosity, dynamic | no data available |
| Viscosity, kinematic | no data available |
| Solids in Solution | no data available |
| Decomposition temperature | no data available |
| Burning number | no data available |
| Dust explosion constant | no data available |
| Minimum ignition energy | no data available |

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10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to avoid

excessive heat

Incompatible products

Aldehydes, Alkali metals, Alkaline earth metals, aluminum, Strong acids, strong alkalis, Strong oxidizing agents, Sulphur compounds

Hazardous decomposition products

carbon dioxide and carbon monoxide, Aldehydes, ketones, Organic acids

Hazardous reactions

Product will not undergo hazardous polymerization.

Thermal decomposition

No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : LD 50 Rat: 6,140 mg/kg

Acute inhalation toxicity

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : no data available

Acute dermal toxicity

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : LD 50

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Rabbit:
9,530 mg/kg

12. ECOLOGICAL INFORMATION

Biodegradability

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : no data available

Bioaccumulation

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : Species: Crayfish (Procambarus)
Exposure time: 61 d
Dose: 1,000 mg/l
Bioconcentration factor (BCF): 0.27
Method: Flow through

Ecotoxicity effects

Toxicity to fish

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : 96 h LC 50 Bluegill (Lepomis macrochirus): 27,540.00
mg/l Method: Static; Mortality
96 h LC 50 Fathead minnow (Pimephales promelas):
8,050.00 mg/l ; Mortality

Toxicity to daphnia and other aquatic invertebrates.

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : 48 h LC 50 Water flea (Daphnia magna): > 10,000.00
mg/l Method: Static Mortality

Toxicity to algae

CARNAUBA WAX : no data available

ETHYLENE GLYCOL : no data available

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Toxicity to bacteria

CARNAUBA WAX : no data available
ETHYLENE GLYCOL : no data available

Biochemical Oxygen Demand (BOD)

CARNAUBA WAX : no data available
ETHYLENE GLYCOL : no data available

Chemical Oxygen Demand (COD)

CARNAUBA WAX : no data available
ETHYLENE GLYCOL : no data available

Additional ecological information

CARNAUBA WAX : no data available
ETHYLENE GLYCOL : no data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

REGULATION

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT /LTD. QTY. |
|-----------|----------------------|---------------|--------------------|---------------|-----------------------------|
|-----------|----------------------|---------------|--------------------|---------------|-----------------------------|

U.S. DOT - ROAD

| |
|---------------------|
| Not dangerous goods |
|---------------------|

U.S. DOT - RAIL

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Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TRANSPORT CANADA - ROAD

Not dangerous goods

TRANSPORT CANADA - RAIL

Not dangerous goods

TRANSPORT CANADA - INLAND WATERWAYS

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

Based upon available information, this product is not known to contain chemicals known to the State of California to cause cancer, birth defects or reproductive harm.

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SARA Hazard Classification

Acute Health Hazard

SARA 313 Component(s)

ETHYLENE GLYCOL 1.59 %

New Jersey RTK Label Information

WATER 7732-18-5
CARNAUBA WAX 8015-86-9
PROPRIETARY ADDITIVE
ETHYLENE GLYCOL 107-21-1

Pennsylvania RTK Label Information

WATER 7732-18-5
CARNAUBA WAX 8015-86-9
ETHYLENE GLYCOL 107-21-1

Notification status

US. Toxic Substances Control Act y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). y (positive listing)
Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)
Australia. Industrial Chemical (Notification and Assessment) Act y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand n (Negative listing)
Japan. Kashin-Hou Law List y (positive listing)
Korea. Toxic Chemical Control Law (TCCL) List y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act y (positive listing)
China. Inventory of Existing Chemical Substances y (positive listing)

Reportable quantity - Product

US. EPA CERCLA Hazardous Substances (40 CFR 302) 312930 lbs

Reportable quantity-Components

ETHYLENE GLYCOL 107-21-1 5000 lbs

| | HMIS | NFPA |
|------------------|------|------|
| Health | 2 | 1 |
| Flammability | 0 | 0 |
| Physical hazards | 0 | |

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| | HMIS | NFPA |
|-----------------|-------------|-------------|
| Instability | | 0 |
| Specific Hazard | -- | -- |

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).