

MATERIAL SAFETY DATA SHEET

The Valvoline Company

Page 001
 Date Prepared: 03/01/06
 Date Printed: 09/02/06
 MSDS No: 510.0396512-002.002

NANO WAX - A036Q

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: NANO WAX - A036Q

Company

The Valvoline Company
 P.O. Box 14000
 Lexington, KY 40512

Telephone Numbers

Emergency: 1-800-274-5263
 Information: 1-859-357-7206

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient (s)	CAS Number	% (by weight)
PETROLEUM HYDROCARBON DISTILLATE		25.0- 35.0
WAX EMULSION		15.0- 25.0
WATER	7732-18-5	14.0- 24.0
ALIPHATIC PETROLEUM DISTILLATES	64742-48-9	10.0- 20.0
POLY (DIMETHYLSILOXANE)	63148-62-9	2.0- 12.0
ETHYLENE GLYCOL	107-21-1	4.0- 4.0
CALCINED ALUMINA	66402-68-4	1.0- 9.0
ALKYL QUATERNARY AMMONIUM BENTONITE	68953-58-2	1.0- 7.0
TETRAGLYCERYL MONOOLEATE	9007-48-1	1.0- 6.0
DIMETHYL SILICONE POLYMER MIXTURE		1.0- 6.0
ALIPHATIC AMINES (INDISC)		1.0- 6.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

Can cause eye irritation.

Skin

Can cause skin irritation. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Additional symptoms of skin contact may include: skin blistering, allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects), Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during

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safe handling and use.

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts 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 usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Symptoms of Exposure

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), lung irritation, 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, loss of coordination, confusion irregular heartbeat, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), narcosis (dazed or sluggish feeling), lung edema (fluid buildup in the lung tissue), acute kidney failure (sudden slowing or stopping of urine production), kidney damage, liver damage, convulsions, coma, and death.

Target Organ Effects

Exposure to this material (or a component) has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals, and may aggravate preexisting disorders of these organs in humans: reproductive effects, nasal damage, eye damage, kidney damage, liver damage, lung damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans, and may aggravate preexisting disorders of these organs: kidney damage, liver damage.

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Developmental Information

Ethylene glycol has caused birth defects in animal studies at high oral doses.

Cancer Information

This material is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration. This product (or a component) is a petroleum-derived material. Similar materials and certain compounds occurring naturally in petroleum oils have been shown to cause skin cancer in laboratory animals following repeated exposure without washing or removal.

Other Health Effects

This product contains amines which may react with nitrites or other nitrosating agents to form nitrosamines. Certain nitrosamines have been shown to cause cancer in laboratory animals. When heated to temperatures above 150 degrees C in the presence of air, this product can form formaldehyde vapors. Formaldehyde has been identified as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) and the Occupational Safety and Health Administration (OSHA). Formaldehyde is irritating to the eyes, nose, throat, and airways, and can cause an allergic reaction (causes narrowing of the air passages of the lungs, sweating, flushing, hives, rapid heart rate, and lowered blood pressure). In addition, formaldehyde can cause an allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). It is harmful if inhaled, swallowed or absorbed through skin.

Primary Route(s) of Entry

Inhalation, Skin absorption, Skin contact, Eye contact, Ingestion.

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.

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Skin

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

Swallowing

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.

Note to Physicians

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 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. 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. This material is an aspiration hazard.

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Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: lung (for example, asthma-like conditions), liver, kidneys, central nervous system, Exposure to this material may aggravate any pre-existing condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

5. FIRE FIGHTING MEASURES

Flash Point

126.0 F (52.2 C)

Explosive Limit

No data

Autoignition Temperature

No data

Hazardous Products of Combustion

May form: aldehydes, carbon dioxide and carbon monoxide, formaldehyde, hydrogen, silicates, silicon oxides, various hydrocarbons.

Fire and Explosion Hazards

Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

regular foam, carbon dioxide, dry chemical.

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Fire Fighting Instructions

Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 2, Flammability - 2, Reactivity - 0

6. ACCIDENTAL RELEASE MEASURES

Small Spill

Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Absorb liquid on vermiculite, floor absorbent or other absorbent material. Persons not wearing proper personal protective equipment should be excluded from area of spill.

Large Spill

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Eliminate all ignition sources (flares, flames, including pilot lights, electrical sparks).

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. All five gallon pails and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred. Precautions during use: 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,

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especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material.

Storage

Do not store near extreme heat, open flame, or sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.)

Skin Protection

Wear impervious gloves (consult your safety equipment supplier). To prevent skin contact, wear impervious clothing and boots.

Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (See Exposure Guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (consult your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

PETROLEUM HYDROCARBON DISTILLATE

No exposure limits established

WAX EMULSION

No exposure limits established

WATER (7732-18-5)

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No exposure limits established

ALIPHATIC PETROLEUM DISTILLATES (64742-48-9)

OSHA VPEL 5.000 mg/m3 - TWA

ACGIH TLV 5.000 mg/m3 - TWA

POLY(DIMETHYLSILOXANE) (63148-62-9)

No exposure limits established

ETHYLENE GLYCOL (107-21-1)

OSHA VPEL 50.000 ppm - Ceiling

ACGIH TLV 100.000 mg/m3 - Ceiling as an aerosol

CALCINED ALUMINA (66402-68-4)

No exposure limits established

ALKYL QUATERNARY AMMONIUM BENTONITE (68953-58-2)

No exposure limits established

TETRAGLYCERYL MONOOLEATE (9007-48-1)

No exposure limits established

DIMETHYL SILICONE POLYMER MIXTURE

No exposure limits established

ALIPHATIC AMINES (INDISC)

No exposure limits established

Provide adequate ventilation to control formaldehyde exposures to within the OSHA permissible exposure limits of 0.75 ppm (TWA) and 2 ppm (STEL) or 0.3 ppm (ACGIH ceiling).

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

No data

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Vapor Pressure

No data

Specific Vapor Density

No data

Specific Gravity

.907 @ 60.00 F

Liquid Density

7.600 lbs/gal @ 60.00 F

7.600 lbs/gal @ 60.00 F

Percent Volatiles (Including Water)

No data

Evaporation Rate

No data

Appearance

No data

State

LIQUID

Physical Form

No data

Color

BEIGE

Odor

FRUITY

pH

No data

10. STABILITY AND REACTIVITY

Hazardous Polymerization

Product will not undergo hazardous polymerization.

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Hazardous Decomposition

May form: acrolein, carbon dioxide and carbon monoxide,
formaldehyde, hydrogen, silicates, silicon oxides, various
hydrocarbons, Material decomposes between 400 and 500 degrees F.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: halogenated hydrocarbons, hypochlorites,
strong organic acids, strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and
federal regulations.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:

UN1993

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Container/Mode:

CASES/SURFACE - NO EXCEPTIONS

NOS Component:

PETROLEUM DISTILLATES

RQ (Reportable Quantity) - 49 CFR 172.101

Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4

Component

Component

ETHYLENE GLYCOL

5000

SARA 302 Components - 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed(X) Fire(X) Reactive() Sudden
Release of Pressure()

SARA 313 Components - 40 CFR 372.65

Section 313 Component(s)

CAS Number

ETHYLENE GLYCOL

107-21-1

International Regulations

Inventory Status

EINECS (EUROPE) The intentional ingredients of this product are listed.

NDSL (CANADA - NDSL) The intentional ingredients of this product are listed.

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State and Local Regulations

California Proposition 65

None

New Jersey RTK Label Information

ETHYLENE GLYCOL

107-21-1

Pennsylvania RTK Label Information

1,2-ETHANEDIOL

107-21-1

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.