

Material Safety Data Sheet (MSDS)

NAPA Antifreeze & Coolant # 1GAL

MATERIAL SAFETY DATA SHEET

Effective Date: 1-21-00 Revision Date: 7-22-02

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Section 1 - Product and Company Identification

PRODUCT NAME: Napa Antifreeze & Coolant # 1GAL

MANUFACTURER'S NAME: EMERGENCY TELEPHONE NUMBER

OLD WORLD INDUSTRIES, INC. (800)424-9300 CHEMTREC

4065 Commercial Avenue

Northbrook, IL 60062-1851 MISCELLANEOUS INFORMATION

(847)559-2000

Section 2 - Hazardous Ingredients

MATERIAL CAS# % BY WT PEL (OSHA) TLV (ACGIH)

Ethylene Glycol 107-21-1 90-95 50 ppm 50 ppm

Diethylene Glycol 111-46-6 0-5 None None

Di Potassium Phosphate

7758-11-4 1-2 None None

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Section 3 - Hazards Identification

Slight odor. May be fatal if swallowed. Vapors can cause eye irritation.

LOWEST KNOWN LD50 (ORAL) 107-21-1 5840 mg/kg

(Rats)

LOWEST KNOWN LD50 (SKIN) 107-21-1 9530 mg/kg

(Rabbits)

HAZARD RATING SYSTEM (NFPA)

HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0

KEY: 0 - Minimal, 1 - Slight 2. Moderate 3. Serious
4. Severe

Product: Antifreeze/Coolant

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may cause eye irritation.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

INGESTION: Single dose oral toxicity is considered to be moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive exposures may cause severe kidney and also liver gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs

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Section 3 - Hazards Identification - Continued

and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

CANCER INFORMATION: Based on data from long-term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

TERATOLOGY (birth defects): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

REPRODUCTIVE EFFECTS: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

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Section 4 - First Aid Measures

Ensure physician has access to this MSDS.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for 15 minutes, while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re-use.

Inhalation: If inhaled, immediately remove victim to fresh air and call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Obtain medical attention immediately. If patient is fully conscious, give two glasses of water. Do not induce vomiting. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whisky. For children, give proportionally less liquor, according to weight.

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Section 5 - Firefighting Measures

FLAMMABLE PROPERTIES

FLASH POINT: 119/c (247/F)

METHOD USED: Setaflash

AUTOIGNITION TEMPERATURE: Autoignition temperature for ethylene glycol is 398/(C748/F).

FLAMMABILITY LIMITS - % of vapor concentration at which product can ignite in presence of spark. Lower Flammability Limit: 3.2%; Upper Flammability Limit: 15.3%.

HAZARDOUS COMBUSTION PRODUCTS: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

EXTINGUISHING MEDIA: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

FIRE FIGHTING INSTRUCTIONS: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

PROTECT EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots, and gloves).

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Section 6 - Environmental Release Measures

PROTECT PEOPLE: Material is moderately toxic when ingested. Take adequate

precautions to keep people, especially children away from spill site
PVC-coated rubber gloves and monogoggles or faceshield can be used during
cleanup of spill site.

Protect the environment: Do not dump used product or diluted material into
sewers, on the ground, or into any body of water.

CLEANUP: Small spills - soak up with absorbent material. Large spills:
Dike and pump into suitable containers for disposal. Ensure compliance with
all applicable statues that require notification of appropriate government
officials

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Section 7 - Handling and Storage

Product on surfaces can cause slippery conditions. Practice reasonable care
and cleanliness. Avoid breathing spray mists if generated. Keep out of
reach of children. Product may become a solid at temperatures below:
-22 C (-8 F). Do not store near food, foodstuffs, drugs or potable water
supplies.

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Section 8 - Exposure Controls/Personal Protection

Respiratory Respiratory protection is required if airborne concentration
exceeds Protection:TLV. At any detectable concentration, any self-contained
breathing apparatus with a full facepiece and operated in a pressure-demand
or other positive pressure mode or any supplied-air respirator with a full
facepiece and operated in a pressure-demand or other positive pressure mode
in combination with an auxiliary self-contained breathing apparatus
operated in pressure-demand or other positive
pressure mode.

Escape: Any air-purifying full facepiece respirator (gas mask) with a
chin-style or front or back-mounted organic vapor canister or any
appropriate escape-type self contained breathing apparatus.

Skin Protection: Protective gloves recommended when prolonged skin contact
can not be avoided. Polyethylene; Neoprene; nitrile; Polyvinyl alcohol;
Natural Rubber, Butyl Rubber, Safety shower should be available.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be
available. Contact lenses should not be worn when working with this
chemical.

Engineering Controls: Use general or local exhaust ventilation to meet TLV
requirements.

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Section 9 - Physical and Chemical Properties

Boiling Range: 171 -175 C (339-348F)

Freeze Point: -18C (0F)

Specific Gravity (Water =1 1.12

Pounds/Gallons 9.3

Vapor Pressure (mm Hg) @ 20C <0.1

Vapor Density 2.1

Water Solubility: Complete

Evaporation Rate (BuAc=1): Nil
% Volatile by Volume: 97.0
Appearance Green
Odor: Mild

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Section 10 - Stability and Reactivity

STABILITY: Stable

CONDITIONS TO AVOID: Isolate from oxidizers, heat &
open flame

MATERIALS TO AVOID: Isolate from strong oxidizers
such as permanganates,
chromates & peroxides

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide from
burning.

HAZARDOUS POLYMERIZATION: Material is not known to polymerize.

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Section 11 - Toxicological Information

SKIN: The dermal LD50 hasb not been determined

INGESTION: The lethal dose in humans is estimated to be 100 m (3
ounces). The oral LD50 for rats is in the 6000 13,000 mg/kg range.

MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL): In vitro mutagenicity
studies were negative. Animal mutagenicity studies were negative

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Section 12 - Ecological Information

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than
100 or Log Kow less than 3). Log octanol/water partition coefficient (log
Know) is 1.36. Henry's Law Constant (H) is 6.0E-08 atm-m³/mol.
Bioconcentration factor (BCF) is 10 in golden orfe.

DEGRADATION & TRANSFORMATION: Biodegradation under aerobic static
laboratory conditions is high (BOD20 or BOD28/ThOD GREATER THAN 40%). 5-Day
biochemical oxygen demand (BOD5) is 0.78p/p. 10-Day biochemical oxygen
demand (BOD10) is 1.06 p/p. 20-Day biochemical oxygen demand (BOD20) is
1.15 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.29 p/p.
Biodegradation may occur under both aerobic and anaerobic conditions (in
either the presence or absence of oxygen). Inhibitory concentration (IC50)
in OECD " Activated Sludge, Respiration Inhibition Test" (Guideline # 209)
is < 1000 mg/L. Degradation is expected in the atmospheric environment
within days to weeks.

ECOTOXICOLOGY: Material is practically non-toxic to aquatic organisms on an
acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute
LC50 for fathead minnow (Pimephales promelas) is 51000 mg/L. Acute LC 50

for bluegil (*Lepomis macrochirus*) is 27549 mg/L. Acute LC50 for rainbow trout (*Oncorhynchus mykiss*) is about 18000-46000 mg/L. Acute LC50 for guppy (*Poecilia reticulata*) is 49300 mg/L. Acute LC50 for water flea (*Daphnia magna*) is 46300-51100 mg/L. Acute LC50 for the cladoceran *Ceriodaphnia dubia* is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (*Artemia salina*) is 20000 mg/L. Acute LCC 50 for golden orfe (*Leueiscus idus*) is greater than 10000 mg/L. Acute LC50 for goldfish (*Carassius auratus*) is greater than 5000 mg/L.

Growth inhibition EC50 for green alga *Selenastrum capricornutum* is 9500-13000 mg/L.

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Section 13 - Disposal Considerations

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

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Section 14 - Transport Information

US DOT Ethylene Glycol

NON-BULK

Proper Shipping Name: Environmentally Hazardous Material

Liquid N.O.S. (Ethylene Glycol) BULK

Proper Shipping Name: Ethylene Glycol

UN3082

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PG III

Technical Name: 5,000 lb.

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Section 15 - Regulatory Information

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

CHEMICAL NAME CAS NUMBER

Ethylene Glycol 107-21-1

UNITED STATES

TSCA - Inventory: Listed

WATER STANDARDS: No data available

ATMOSPHERIC Clean Air Act (1990) - List of Hazardous Air
Contaminants: listed

STANDARDS:

CERCLA: Reportable Quantity (RQ): 5,000 pounds (532 gallons)

SARA Title III: Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is = not listed.

STATE RIGHT-TO-KNOW:

California - Exposure Limits - Ceilings: vapor-50 ppm ceiling; 125 mg/m3 ceiling

Director's List of Hazardous Substances: listed

Florida - Hazardous Substances List: listed

Massachusetts - Right-To-Know List: listed

Minnesota - Haz. Subs. List: listed (particulate and vapor)

New Jersey - Right-To-Know List (Total): Present greater than 1.0%

Pennsylvania Right-To-Know List: environmental hazard

CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required.

WHMIS INFORMATION: D2A - material has potential toxic effects. Refer elsewhere in the MSDS for the specific warnings and safe handling information. Refer to the employer's workplace education program.

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Section 16 - Other Information

California Proposition 65

This product contains the following chemicals known to the State of California to cause cancer:

Component CAS # Amount

1,4-Dioxane 123-91-1 <=0.0086%

Acetaldehyde 75-07-0 <=0.1000ppm

This contains the following chemical known to the State of California to cause birth defects and/or other reproductive harm.

Component CAS # Amount

Ethylene glycol monomethyl ether

109-86-4 <=0,0009%

California SCAQMD Rule 443.1 (South Coast Air Quality Management District Rule 443.1, Labeling of Materials Containing Organic Solvents)

Contact: Thomas Cholke Phone: (847) 559-2000

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