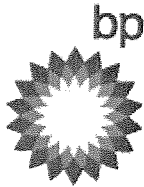


MATERIAL SAFETY DATA SHEET



===== CHEMICAL PRODUCT AND COMPANY IDENTIFICATION =====

TRADE NAME: WINDSHIELD WASHER FLUID GENERIC
CAS NUMBER: Mixture
SYNONYM(S): WINDSHIELD WASHER FLUID
MSDS NUMBER: 1368
PRODUCT CODE: P 9853
HIERARCHY: 060.030
MANUFACTURER/SUPPLIER: BP Oil Company
ADDRESS: 200 Public Square, Cleveland, OH 44114-2375
TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE:
BP America: 800-321-8642
CHEMTREC Assistance (In U.S.): 800-424-9300
CHEMTREC Assistance (Elsewhere): 703-527-3887
TELEPHONE NUMBERS - GENERAL ASSISTANCE: (Normal Office Hours):
(8:00-4:30 M-F, EST):
Technical: 216-586-6184
MSDS Contact: 216-586-8023

===== COMPOSITION/INFORMATION ON INGREDIENTS =====

COMPONENT: A proprietary windshield washer fluid solution containing water (~67%), methanol (~33%), a blue dye, a antifoam agent and a surfactant.

CAS NO.: Mixture
% BY WT.: 99 - 100
EXPOSURE LIMITS: None Established

Exposure limits listed below apply to the ingredient(s) above.

COMPONENT: Methanol
CAS NO.: 67-56-1
% BY WT.: 30 - 40
EXPOSURE LIMITS:
262 mg/m³ (200 ppm) TLV (skin) ACGIH
328 mg/m³ (250 ppm) STEL (skin) ACGIH
260 mg/m³ (200 ppm) PEL (skin) OSHA
325 mg/m³ (250 ppm) STEL (skin) OSHA
260 mg/m³ (200 ppm) REL (skin) NIOSH
325 mg/m³ (250 ppm) STEL (skin) NIOSH
6000 ppm IDLH NIOSH
260 mg/m³ (200 ppm) TWA (skin) MEXICAN

310 mg/m3 (250 ppm) STC (skin) MEXICAN

Remaining components not determined hazardous and/or hazardous components present at less than 1.0% (0.1% for carcinogens).

The OSHA Permissible Exposure Limits listed above were promulgated by OSHA in 1989. This standard was vacated by the U.S. Court of Appeals for the Eleventh Circuit. Exposure limits defined in specific chemical standards found in 29 CFR 1910.1000-1048 are not covered by this ruling and are still enforceable.

===== HAZARDS IDENTIFICATION =====

EMERGENCY OVERVIEW:

Clear Blue/Green Liquid Having a Slight "Sweet-Alcohol" Odor.
Danger! Poison. May Be Fatal Or Cause Blindness If Swallowed. May Be Irritating To the Skin, Eyes and Respiratory Tract. Vapors May Be Harmful. May Cause Adverse Central Nervous System Effects.
Combustible Liquid & Vapor.

POTENTIAL HEALTH EFFECTS:

SKIN:

May cause slight to moderate irritation. Repeated or prolonged contact may result in defatting, redness, itching, inflammation, cracking and possible secondary infection. Absorption from prolonged or massive skin contact may cause poisoning. Exposure may cause symptoms similar to those listed under "Ingestion" (see Ingestion section).

EYE:

May cause slight to moderate irritation. Direct contact may cause irritation, corneal edema and temporary corneal opacity.

INHALATION:

May cause respiratory tract irritation and pulmonary edema. Exposure may cause symptoms similar to those listed under "Ingestion" (see Ingestion section).

INGESTION:

Harmful or fatal if swallowed. Cannot be made non-poisonous. May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. May cause harmful central nervous system effects which may be delayed. Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death. Primary toxic effects are metabolic acidosis and visual system damage. Visual system damage may progress from visual blurring to complete blindness. May also cause liver, kidney, heart and pancreas damage.

SPECIAL TOXIC EFFECTS:

Methanol has been shown to be mutagenic in a non-mammalian test system and damages genetic material in mammalian test systems. May also cause adverse reproductive effects, based on tests with laboratory animals.

See Section FIRST AID MEASURES - for Medical Conditions Aggravated By Exposure.

===== FIRST AID MEASURES =====

SKIN:

Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Get medical attention if irritation persists.

EYE:

Flush immediately with large amounts of room temperature water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention.

INHALATION:

Remove affected person from source of exposure. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Continue to monitor closely. Keep affected person warm and at rest. Get immediate medical attention.

INGESTION:

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water or milk to dilute stomach contents. Keep affected person warm and at rest. Get immediate medical attention.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Persons with pre-existing eye, skin, respiratory, liver and kidney disorders may be at an increased risk from exposure to this product.

NOTES TO PHYSICIAN:

Support respiratory and cardiovascular function. Exposed eyes should be irrigated with copious amounts of room temperature water for at least 15 minutes. If irritation, pain, swelling, lacrimation, or photophobia persist after 15 minutes of irrigation, an ophthalmologic examination should be performed. With oral ingestion, induction of emesis is not recommended. To prevent further absorption, consider prehospital administration of activated charcoal as an aqueous slurry in patients who are awake and able to protect their airway. Consult standard references for dosages. Gastric lavage with a large-bore

orogastric tube may be indicated if performed soon after ingestion (generally within 60 minutes), or in patients who are comatose or at risk of convulsing. Seizure control is mandatory prior to gastric lavage. Protect the airway in alert patients by placement of the patient in Trendelenburg and left lateral decubitus position, with suction available. In obtunded or unconscious patients, the airway should be protected by endotracheal intubation. Consult standard references for technique(s). Monitor blood for the following: (1) levels of methanol, ethanol, formate and concomitant ingestants; (2) acid-base, fluid, and electrolyte derangements; (3) renal toxicity and (4) possible hematopoietic effects. Obtain CBC, electrolytes, urinalysis, and blood gases in symptomatic patients or those with a history of toxic ingestions. Determine plasma osmolality if methanol level is not readily available. An elevated osmolal gap suggests possible methanol poisoning. A normal osmolal gap does NOT reliably exclude the possibility. Methanol levels greater than 25 milligrams/deciliter (8 millimoles/liter) may be associated with severe intoxications. If presentation is delayed and most of the methanol has been metabolized severe intoxication may occur with methanol levels below 25 milligrams/deciliter. If ethanol therapy is indicated, the loading dose must be modified if the blood ethanol determination is positive, to avoid severe iatrogenic ethanol intoxication and excessive plasma osmolality. Monitor renal function closely. If the blood methanol is very high, care should be taken to monitor respirations during ethanol therapy. Intubate and ventilate as clinically indicated. Control seizures with standard therapy, and correct the acidosis. Monitor arterial blood gas as a guide to severity of intoxication. Severe anion gap metabolic acidosis is common. A pH of less than 7.0 and bicarbonate less than 10 milliequivalents/liter are not uncommon following severe intoxication. The onset of acidosis may be delayed up to 18 to 48 hours, especially if ethanol has also been ingested. Therefore, the absence of acidosis does not rule out a significant methanol ingestion. Adequacy of ventilation must be continuously monitored in children and adults. Intubation may be necessary with increased doses. Significant acidosis should be treated with sodium bicarbonate with close monitoring of arterial blood gases. Severe acidosis may be initially treated with 1 to 2 milliequivalents/kilogram bicarbonate. Bicarbonate should be titrated to normalize arterial pH. Dosing the patient with ethanol effectively inhibits oxidation of methanol into its far more toxic products. Ethanol has about 20 times the affinity for alcohol dehydrogenase compared to methanol. This competitive effect of ethanol gains more time for excretion of unchanged methanol from the body, and it also inhibits the formation of methanol metabolites that produce severe acidosis. Ethanol therapy must be considered in the following situations: (a) Anion gap metabolic acidosis associated with a history of methanol ingestion; (b) Peak blood methanol level greater than 20 milligram/deciliter (6.2 millimoles/liter); (c) Any symptomatic patient with a history of methanol ingestion. Monitor blood glucose. If the patient has concurrently ingested ethanol, then the ethanol loading dose must be modified so that the blood ethanol level does not exceed 100 to 130 milligrams/deciliter (21.7 to 28.2 millimoles/liter). Ethanol therapy should be initiated in those patients with signs or symptoms of severe poisoning (acidemia, toxic blood level) despite a history of recent disulfiram (Antabuse(R)) ingestion. The risk of not treating these patients is excessive, especially if hemodialysis is not

immediately available. Administer the ethanol cautiously with special attention to the severity of the "Antabuse reaction" (flushing, sweating, severe hypotension, and cardiac arrhythmias). Be prepared to treat hypotension with fluids and pressor agents (norepinephrine or dopamine). Monitor EKG and vital signs carefully. Hemodialysis should be performed as soon as adequate vital signs are established. Monitor serum electrolytes, arterial pH, and blood gases. Monitor blood glucose during ethanol therapy. Consult standard references for ethanol dosage and administration. Leucovorin and folic acid have been used to enhance the metabolism of formic acid, a methanol metabolite. Consult standard references. Hemodialysis with simultaneous EtOH therapy has been very effective in enhancing the elimination of methanol in severe intoxications. Consult standard references for dosage and administration. Peak blood methanol concentration greater than 50 milligrams/deciliter (15 millimoles/liter), severe acidosis regardless of the blood methanol level, severe acid-base and/or fluid-electrolyte disturbances despite conventional therapy, renal failure, and visual symptoms are indications for dialysis. Because chronic alcoholics who have ingested methanol may be at higher risk for severe sequelae or death despite ethanol infusion, some authors have advocated hemodialysis for these patients regardless of peak methanol levels. Although hemodialysis is highly effective at removing methanol, ethanol therapy should be continued during dialysis. A methanol half-life of 2.5 hours during concurrent ethanol therapy and hemodialysis has been reported. Dialysis, once begun, should continue until the patient's clinical picture improves and the methanol level decreases below 20 milligrams/deciliter. Some patients, including those with renal insufficiency, may need to be dialyzed for as long as 20 hours. Peritoneal dialysis is less effective than hemodialysis but may be of some use. It is technically easier in infants and has been successfully used. A patient who has abnormal vital signs, visual problems, pulmonary edema, evidence of renal dysfunction, high methanol levels, or is comatose should be admitted to the intensive care unit. Ethanol therapy should be continued until the following criteria are met: (a) Methanol blood concentration is less than 10 milligrams/deciliter; (b) Formate blood concentration is less than 1.2 milligrams/deciliter; (c) Methanol-induced acidosis (pH, blood gases), clinical findings (CNS), electrolyte abnormalities (bicarbonate), elevated serum amylase, and wide osmolal gap have resolved. If no serum concentrations are available, ethanol therapy should be continued for a minimum of 5 days in the absence of dialysis, one day when dialysis has been performed, or until clinical findings resolve, whichever is longer.

===== FIREFIGHTING MEASURES =====

FLASH POINT: 42 C (107.6 F)
AUTOIGNITION TEMPERATURE: 465 C (869 F) METHANOL
FLAMMABILITY LIMITS IN AIR (% BY VOL.) LOWER: > 6.7 (For Methanol)
FLAMMABILITY LIMITS IN AIR (% BY VOL.) UPPER: < 36 (For Methanol)

HAZARDOUS COMBUSTION PRODUCTS:

Combustion may produce CO, CO2 and reactive hydrocarbons.

BASIC FIRE FIGHTING PROCEDURES:

Use dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire. Water may be ineffective but should be used to cool fire-exposed containers, structures and to protect personnel. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to dilute spills and to flush them away from sources of ignition. Do not flush down public sewers or other drainage systems. Exposed firefighters must wear MSHA/NIOSH approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Dangerous when exposed to heat or flame. Containers may explode in heat of fire. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources and flash back. Vapors may concentrate in confined areas. Runoff to sewer may cause fire or explosion hazard. Irritating and/or toxic substances may be emitted upon thermal decomposition.

===== ACCIDENTAL RELEASE MEASURES =====

If your facility or operation has an "Oil or Hazardous Substance Contingency Plan", activate its procedures. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. For technical advice and assistance related to chemicals, contact CHEMTREC (800/424-9300) and your local fire department. Notify the National Response Center, if required. Also notify appropriate state and local regulatory agencies, the LEPC and the SERC. Contact the local Coast Guard if the release is into a waterway. Isolate spill or leak area immediately for at least 100 to 200 meters (330 to 660 feet) in all directions. Keep unauthorized people away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. Large Spills: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor, but may not prevent ignition in closed spaces.

During an accidental release, personal protection equipment may be required (see Section EXPOSURE CONTROLS/PERSONAL PROTECTION). Additional regulatory requirements may apply (see Section REGULATORY INFORMATION).

===== HANDLING AND STORAGE =====

HANDLING:

Keep out of reach of children. Keep containers closed. Do not eat, drink or smoke in areas of use or storage. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Use only with adequate ventilation. Avoid inhalation and contact with the skin and eyes. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Remove contaminated clothing and clean before reuse. Wash thoroughly after work using soap and water.

Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose containers unless adequate precautions are taken against these hazards.

STORAGE:

Do not store in unlabeled containers. Store in tightly closed containers in cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

===== EXPOSURE CONTROLS / PERSONAL PROTECTION =====

ENGINEERING CONTROLS:

Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures.

PERSONAL PROTECTION EQUIPMENT (PPE):

EYE PROTECTION:

Wear safety glasses or chemical goggles to prevent eye contact. Do not wear contact lenses when working with this substance.

SKIN PROTECTION:

Wear impervious gloves and protective clothing to prevent skin contact.

RESPIRATORY PROTECTION:

Ventilation may be used to reduce airborne concentrations. If ventilation cannot reduce airborne concentrations below acceptable limits, appropriate respiratory protection should be used. Use NIOSH or MSHA approved respiratory protective equipment when airborne exposure limits are exceeded. NIOSH/MSHA approved respiratory protective equipment may be required for non-routine and emergency use.

See Section COMPOSITION/INFORMATION ON INGREDIENTS For Exposure Guidelines.

===== PHYSICAL AND CHEMICAL PROPERTIES =====

BOILING POINT:	81 C (177.8 F)
SP. GRAVITY (Water=1):	0.961 @ 15.56 C (60.008 F)
MELTING POINT:	-98 C (-144.4 F)
% VOLATILE:	33 - 35

VAPOR PRESSURE: 97 MM HG @ 20 C (68 F)
EVAPORATION RATE: 5.9 (Butyl Acetate = 1)
VAPOR DENSITY (Air=1): 1.1
VISCOSITY: NA
% SOLUBILITY IN WATER: 100
POUR POINT: NA
pH: NA
MOLECULAR WEIGHT: 32.05
MOLECULAR FORMULA: CH3OH and H2O
ODOR/APPEARANCE:
Clear Blue/Green Liquid Having a Slight "Sweet-Alcohol" Odor.

===== STABILITY AND REACTIVITY =====

STABILITY/INCOMPATIBILITY:

Stable under conditions of normal use. Avoid contact with strong oxidizers and chromic anhydride.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS:

Reacts vigorously with oxidizing agents.

===== DISPOSAL CONSIDERATIONS =====

WASTE DISPOSAL (Resource Conservation & Recovery Act - RCRA):

This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however it could be characteristically hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions (40 CFR 261). Additionally, it could be designated as hazardous according to state regulations. This substance could also become a hazardous waste if it is mixed with or comes in contact with a hazardous waste. Check 40 CFR 261 to determine whether it is a hazardous waste. If it is a hazardous waste, regulations at 40 CFR 262, 263, 264, 268 and 270 apply. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

There may be specific current regulations at the local, regional, or state level that pertain to this information. Chemical additions, processing, or otherwise altering this material may make the waste management information presented in this MSDS, incomplete, inaccurate, or otherwise inappropriate.

===== TRANSPORT INFORMATION =====

U.S. DEPARTMENT OF TRANSPORTATION (D.O.T.):

Proper Shipping Name (49 CFR 172.101): Consumer Commodity
Hazard Class (49 CFR 172.101): ORM-D
UN/NA Code (49 CFR 172.101): Not Applicable
Packing Group (49 CFR 179.101): Not Applicable
Bill Of Lading Desc. (49 CFR 172.101): Consumer Commodity, ORM-D
(Windshield Washer Fluid)
Labels Required (49 CFR 172.101): Not Applicable

Placards Required (49 CFR 172.101): Not Applicable

INTERNATIONAL AND DOMESTIC AIR TRANSPORTATION:

IATA Proper Shipping Name: Consumer Commodity
Hazard Class: 9
Subsidiary Risk: NA
UN Code: UN 8000
Package Specification: 910
Labels Required: Miscellaneous

INTERNATIONAL WATER TRANSPORTATION:

IMDG Proper Shipping Name: Flammable Liquid N.O.S.
Hazard Class: 3
UN Code: UN 1993
IMDG Page Number: 3345
Labels Required: 3 Flammable Liquid
Placards Required: 3 Flammable Liquid

CANADIAN TRANSPORTATION OF DANGEROUS GOODS (T.D.G.):

Shipping Name: Flammable Liquid N.O.S.
PIN (UN/NA): UN 1993
Regulated Class: 3
Division: NA
Packaging Group: III
Labels Required: 3 Flammable Liquid
Placards Required: 3 Flammable Liquid

===== REGULATORY INFORMATION =====

NOTIFICATION:

The reportable quantity for this material is 15,152 pound(s). This material contains one or more constituents regulated as hazardous substances under U.S. Federal Law. Any spill or other release, or substantial threat of release, of this material to the air, water or land (unless entirely contained in the workplace) equal to or in excess of the reportable quantity must be reported immediately to the National Response Center (800/424-8802). Also contact appropriate state and local regulatory agencies. Contact the Coast Guard if spilled into navigable waterways under their jurisdiction. Failure to report may result in substantial civil and criminal penalties. * Calculated on the basis for whichever hazardous component provides the lowest value for: RQ / % in mixture

US EPA TOXIC SUBSTANCE CONTROL ACT (TSCA):

All components of this product are listed on the TSCA inventory.

US EPA SUPERFUND AMENDMENTS & REAUTHORIZATION ACT (SARA) TITLE III INFORMATION:

Listed below are the hazard categories for SARA Section 311/312 (40 CFR 370):

Immediate Hazard:	X
Delayed Hazard:	X
Fire Hazard:	X
Pressure Hazard:	-
Reactivity Hazard:	-

This product contains the following toxic chemicals subject to the annual toxic chemical release reporting requirements of SARA Section 313 (40 CFR 372):

COMPONENT:	CAS NO.:	% BY WT.:
Methanol	67-56-1	33

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):

All components of this product are listed on the Canadian DSL Inventory.

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CATEGORIES:

The following WHMIS categories apply to this product:

Compressed Gas:	-	Other Toxic Effects:	X
Flammable/Combustible:	X	Bio Hazardous:	-
Oxidizer:	-	Corrosive:	-
Acutely Toxic:	X	Dangerously Reactive:	-

===== OTHER INFORMATION =====

NFPA RATINGS:

Health:	1
Flammability:	2
Reactivity:	0
Special Hazards:	-

HMIS RATINGS:

Health:	1
Flammability:	2
Reactivity:	0
Personal Protective Equipment:	H

REVISION DATE:

22-jul-1998

REPLACES SHEET DATED:

07-oct-1993

COMPLETED BY:

BP OIL HSEQ DEPARTMENT

REVISION SUMMARY: The following section(s) have been revised since the previous issue of this MSDS:

COMPOSITION/INFORMATION ON INGREDIENTS
HAZARDS IDENTIFICATION
FIRST AID MEASURES
FIREFIGHTING MEASURES
ACCIDENTAL RELEASE MEASURES
HANDLING AND STORAGE
EXPOSURE CONTROLS / PERSONAL PROTECTION
PHYSICAL AND CHEMICAL PROPERTIES
TOXICOLOGICAL INFORMATION
TRANSPORT INFORMATION
REGULATORY INFORMATION
OTHER INFORMATION

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

ND: No Data NA: Not Applicable *See specific note or section