Flo-Perm Concentrate Windshield Washer
SAFETY DATA SHEET

SECTION 1: Identification

Product identifier	Flo-Perm Concentrate Windshield Washer
Part #:	70011, 64301
Recommended Use	To be used as windshield wash fluid after dilution with water
Restrictions on Use	None known
Manufacturer/Supplier's details	Vulsay Industries Ltd. 35 Regan Road, Brampton, Ontario L7A 1B2 Phone # 905 846 2200
Emergency phone number(s)	24 hours EMERGENCY Phone # - 1-800-468-1760

SECTION 2: Hazard identification

General hazard statement
Blue colour liquid, with a mild, characteristic alcohol odour.
FLAMMABLE LIQUID AND VAPOUR: Confined space hazard
TOXIC: Causes damage to organs. May be harmful if inhaled, absorbed through skin or swallowed. Mild central nervous system depressant following inhalation, skin absorption or ingestion. May cause headache, nausea, dizziness, drowsiness, and incoordination. Severe visual effects, including increased sensitivity to light, blurred vision, and blindness may develop following an 8-24 hour symptom-free period. Coma and death may result.
Eye irritant.

Classification of the substance or mixture
- Flammable liquids (chapter 2.6), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 3
- Acute toxicity, dermal (chapter 3.1), Cat. 3
- Acute toxicity, inhalation (chapter 3.1), Cat. 3
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 1

GHS label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed

H311	Toxic in contact with skin
H331	Toxic if inhaled
H320 -	Causes eye irritation
H370	Causes damage to organs (may cause blindness if swallowed)
H360 -	May damage fertility or the unborn child
H336 -	May cause drowsiness or dizziness

Precautionary statement(s)

P201 -	Obtain special instructions before use
P202 -	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fume, gas, mist, vapours, spray.
P264	Wash hands and skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321	Specific treatment (see first-aid measures section).
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P501	Dispose of contents/container, in a safe manner, to appropriate waste disposal facility in accordance with regional, national and local laws and regulations.
P370+P378	In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder, water spray or fog to extinguish.

SECTION 3: Composition/information on ingredients

Substances

Hazardous components

Component	Concentration
Methanol (CAS no.: 67-56-1; EC no.: 200-659-6; Index no.: 603-001-00-X)	**>= 80 - <= 100 % (Volume)**

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician. Methanol is toxic and flammable. Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment and remove any sources of ignition).
If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Obtain medical attention.
In case of skin contact	Rinse skin with water/shower. Remove immediately all contaminated clothing. Wash contaminated clothing before reuse.
In case of eye contact	Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Ensure that folded skin of eyelids is thoroughly washed with water. Obtain medical attention if eye irritation, pain, blinking or redness persist.
If swallowed	Rinse mouth. Do NOT induce vomiting. Contains methanol. If swallowed, call a Poison Control Center or doctor immediately. Immediate medical treatment is required. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed
Symptoms/injuries after inhalation : Symptoms may include dizziness, headache, nausea and loss of coordination. CNS depression. Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

Symptoms/injuries after skin contact: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Repeated and/or prolonged skin contact may cause irritation.

Symptoms/injuries after eye contact: Causes serious eye damage.

Symptoms/injuries after ingestion: Ingestion of as little as 10 ml of methanol can cause blindness and 30 ml (1 ounce) can cause death if victim is not treated. Ingestion causes mild central nervous system (CNS) depression with nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness. Metabolic acidosis and severe visual effects can occur following an 8-24 hour latent period. Coma and death, usually due to respiratory failure, may occur if medical treatment is not received. Visual effects may include reduced reactivity and/or increased sensitivity to light, blurred, double and/or snowy vision, and blindness.

Chronic symptoms: Some teratogenic and fetotoxic effects, were observed in animal studies but are inconclusive.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically. The severity of outcome following methanol ingestion may be more related to the time between ingestion and treatment, rather than the amount ingested. Therefore, there is a need for rapid treatment of any ingestion exposure. Antidote is fomepizole which enhances elimination of metabolic formic acid. This must be administered by a trained medical professional only. For specialist advice physicians should contact the Poison Control Centre.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Synthetic Fire fighting foam AR-FFF (3% solution). Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable Extinguishing Media
Foam General purpose synthetic foams or protein foams
Water may be effective for cooling, but may not be effective for extinguishing a fire because it may not cool methanol below its flash point.

Specific hazards arising from the chemical
Highly flammable liquid and vapor. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases. Under fire conditions closed containers may rupture or explode. Can be ignited by static discharge. Can accumulate static charge by flow, splashing or agitation. Even dilute solutions in water may be flammable. Can accumulate in confined spaces, resulting in a toxicity and flammability hazard.

Special protective actions for fire-fighters
Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting : Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
EYES AND FACE: Splash proof goggles and/or face shield should be worn in situations having the potential for eye contact.
SKIN (HAND, ARMS AND BODY): Chemical protective methanol impervious gloves should be worn at all times when handling this product. In confined work spaces or where spaces or where the risk of skin exposure is much higher, impervious clothing should also be worn.
RESPIRATORY: Must be worn in all situations where the recommended occupational exposure limit is exceeded. Proper equipment includes an atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus for concentrations in excess of the recommended occupational exposure limit.
MECHANICAL VENTILATION:
GENERAL: Highly recommended for all indoor situations. Concentrations in air should be maintained below lower explosive limit at all times, or below the recommended threshold limit value if unprotected personnel are included.
LOCAL: Required for personnel entry into confined spaces (i.e. bulk storage tanks)
MAKE-UP AIR: Should always be supplied to balance air exhausted (generally or locally)

Environmental precautions
Prevent entry to sewers, on the ground, and public waters.

Methods and materials for containment and cleaning up
Stop leak if safe to do so. Remove all sources of ignition. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Wash spill area with soapy water. Large spills: Dike to collect large liquid spills. Alcohol resistant foams may be applied to spill to diminish vapour and fire hazard. Remove liquid by intrinsically safe pumps or vacuum equipment designed for vacuuming flammable materials (i.e. equipped with inert gases and ignition sources controlled). Place in suitable, covered, labelled containers.

Reference to other sections
SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations

SECTION 7: Handling and storage

Precautions for safe handling
Flammable liquid. Contents may catch fire. Keep away from heat, flame and spark. Use only in a well-ventilated area. Keep containers tightly sealed. Handling equipment should be grounded to prevent accumulation of static charge. Avoid any direct contact. Use good personal hygiene. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities
Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment. Have appropriate fire extinguishers and spill cleanup equipment in or near storage area.
Storage conditions: Keep only in the original container in a cool, well ventilated place away from : Ignition sources, oxidizing agents. Keep in fireproof place. Keep container tightly closed. Do not store in confined spaces. away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources.
Storage area: Store at room temperature. Keep out of direct sunlight. Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Provide the tank with earthing.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 67-56-1
Methanol (67-56-1)
USA ACGIH ACGIH TWA (mg/m³) 262 mg/m³
USA ACGIH ACGIH TWA (ppm) 200 ppm
USA ACGIH ACGIH STEL (mg/m³) 327 mg/m³
USA ACGIH ACGIH STEL (ppm) 250 ppm
USA ACGIH Remark (ACGIH) Headache; eye dam; dizziness; nausea
USA OSHA OSHA PEL (TWA) (mg/m³) 260 mg/m³
USA OSHA OSHA PEL (TWA) (ppm) 200 pp

Appropriate engineering controls
MECHANICAL VENTILATION:
GENERAL: Highly recommended for all indoor situations. Concentrations in air should be maintained below lower explosive limit at all times, or below the recommended threshold limit value if unprotected personnel are included.
LOCAL: Required for personnel entry into confined spaces (i.e. bulk storage tanks)
MAKE-UP AIR: Should always be supplied to balance air exhausted (generally or locally)

Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Splash proof goggles and/or face shield should be worn in situations having the potential for eye contact.

Skin protection
Chemical protective methanol impervious gloves should be worn at all times when handling this product. In confined work spaces or where spaces or where the risk of skin exposure is much higher, impervious clothing should also be worn.

Body protection
: Wear chemical resistant overall.

Respiratory protection
Must be worn in all situations where the recommended occupational exposure limit is exceeded. Proper equipment includes an atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus for concentrations in excess of the recommended occupational exposure limit.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear blue liquid with alcohol odour
Odor	Alcohol odour
Odor threshold	No data available.
pH	7.5 - 9.0
Melting point/freezing point	-97 deg C
Initial boiling point and boiling range	69 deg C
Flash point	13 deg C TCC
Evaporation rate	No data available.
Flammability (solid, gas)	Highly flammable liquid
Upper/lower flammability limits	Upper: (% BY VOLUME): 36.5 for 100% METHANOL, Lower: (% BY VOLUME): 6.0 for 100% METHANOL
Vapor pressure	No data available.
Vapor density	No data available.
Relative density (water = 1)	0.840 - 0.850 @ 20 ^{0}C
Solubility(ies)	100% soluble in water
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions.

Chemical stability
The product is stable under storage at normal ambient temperatures. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Hygroscopic

Possibility of hazardous reactions
Under fire conditions closed containers may rupture or explode

Conditions to avoid
Avoid sparks, open flames and all ignition sources

Incompatible materials
Oxidizing agents. Strong acids. Strong bases. Methanol is not compatible with gasket and O-rings materials made of Buna-N and Nitrile.

Hazardous decomposition products
CO, CO2, Formaldehyde gas produced on combustion

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Methanol
LD50 Oral - Rat - 5600 mg/kg

Methanol
LD50 Skin - Rabbit - 15800 mg/kg

Methanol
LC50 Inhalation - Rat - 64000 ppm 4hr

Skin corrosion/irritation
Not classified
(Based on available data, the classification criteria are not met)

Serious eye damage/irritation
Causes serious eye irritation

Respiratory or skin sensitization
Not classified
(Based on available data, the classification criteria are not met)

Germ cell mutagenicity
Not classified
(Based on available data, the classification criteria are not met)

Carcinogenicity
Not classified
(Based on available data, the classification criteria are not met)

Reproductive toxicity
Not classified
(Based on available data, the classification criteria are not met)

STOT-single exposure
Causes damage to organs.

Inhalation
At high concentrations severe nose and throat irritation.
Skin Absorption
May be harmful based on animal tests.
Ingestion
1) MILD TO MODERATE TOXICITY: Patients will initially have signs of acute intoxication, such as ataxia, sedation, and disinhibition. Patients may also complain of abdominal pain, nausea, vomiting, and headache. Acidosis or signs of visual impairment suggest a more severe poisoning.
2) SEVERE TOXICITY: Severe metabolic acidosis develops hours after exposure (if ethanol is not coingested) and may lead to multi-organ dysfunction including hypotension, tachycardia, dysrhythmias, seizures, coma, pancreatitis,

and acute renal failure. Rhabdomyolysis may occur in severe poisonings. Hypomagnesemia, hypokalemia, and hypophosphatemia have also been reported. In addition, ocular toxicity may develop; manifestations include mydriasis, hyperemic optic discs, and papilledema. Visual impairment may develop, which may range from blurry/hazy vision to color vision defects to "snowfield" vision to total blindness. Permanent sequelae after severe intoxication may include basal ganglia necrosis with parkinsonian features (ie, tremor, rigidity, bradykinesia) and blindness.

Toxic, can cause death depression of the central nervous system, impaired vision and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure may cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system e.g. tremor, seizures.

STOT-repeated exposure
No data available

Aspiration hazard
Based on available data, the classification criteria are not met

SECTION 12: Ecological information

Toxicity
The following data is for methanol, the main ingredient of Windshield Washer.
LC50 (96h,fish): 15400 – 29400 mg/l
EC50 (48h, daphnia):>10000 mg/l
EC50 (72h, algae): 22000 mg/l Selenastrum carpricornutum

Persistence and degradability
Readily biodegradable

Bioaccumulative potential
Does not bioaccumulate

Mobility in soil
Mobile in soils

Results of PBT and vPvB assessment
Methanol is not considered to be persistent, bioaccumulating or toxic (PBT). Methanol is not considered to be very persistent nor very bioaccumulating (vPvB).

Other adverse effects
Avoid release to the environment. Do not flush into surface water or sanitary sewer system.

Terrestrial fate: The mobility of methanol in the subsurface will not be significantly limited by adsorption. Sorption of methanol to organic carbon in soil will be minor, and methanol will tend to remain in soil pore water.
Aquatic Fate: Methanol is completely miscible in water. Accordingly, its mobility in the subsurface will not be limited by solubility. Methanol has been shown to undergo rapid biodegradation in a variety of screening studies using sewage seed and activated sludge inoculum, which suggests that biodegradation, will occur in aquatic environments where the concentration does not inhibit bacterial activity.
Atmospheric Fate: Methanol has a vapour pressure of 127 mm Hg at 25 C and is expected to exist solely as a vapour in the ambient atmosphere. Vapour-phase methanol is degraded in the atmosphere by reaction with photo chemically produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days.

SECTION 13: Disposal considerations

Disposal of the product
Review federal, provincial and local government regulations prior to disposal. Store material for disposal as indicated in Section 7, Handling and storage. Reclaim and dispose of at a licensed facility permitted to handle hazardous waste. Recycle wherever possible.

Disposal of contaminated packaging
Empty containers may contain hazardous residue. Never weld, cut or grind empty containers. If disposing of empty containers, ensure they are well rinsed with water, then dispose of at an authorized landfill. After cleaning, all existing labels should be removed.

SECTION 14: Transport information

Canadian TDG (Transportation of Dangerous Goods):
UN Number: 1986
Class: 3 (6.1)
Packing Group: III
Proper Shipping Name: Methanol

U. S. Department of Transportation (DOT):
UN Number: 1986
Class: 3 (6.1)
Packing Group: III
Proper Shipping Name: Methanol

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Canadian Domestic Substances List (DSL)
All ingredients are listed on the DSL/NDSL.

Toxic Substances Control Act (TSCA) Inventory
All ingredients are listed on the TSCA Inventory.

Massachusetts Right To Know Components
Chemical name: Methanol
CAS number: 67-56-1

New Jersey Right To Know Components
Common name: METHYL ALCOHOL
CAS number: 67-56-1

Pennsylvania Right To Know Components
Chemical name: Methanol
CAS number: 67-56-1

California Prop. 65 Components
This product contains chemicals known to the State of California to cause birth defects.
This product contains chemicals known to the State of California to cause reproductive harm.

SECTION 16: Other information

SDS Prepared By: Quality Assurance Department

Phone #: 905 846 2200

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