POLYGARD SCREENWASH (ARCTIC) CONCENTRATE (-20°C)

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	POLYGARD SCREENWASH (ARCTIC) CONCENTRATE (-20°C)
Product number	18200 18201 18203 18205 18210 18210-A, 18215 18220 18582
Internal identification	B18902

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	All purpose automotive windscreen cleaner
Uses advised against	This product is not recommended for any industrial, professional or consumer use other than the identified uses stated above.

1.3. Details of the supplier of the safety data sheet

Supplier

Miswa Chemicals Ltd
Caswell Road
Brackmills
Northampton
England
NN4 7PW
T: +44 (0)1604 701111
F: +44 (0)1604 701120
E-mail address for the competent person responsible for the safety data sheet: SDSAdmin@miswa.com

1.4. Emergency telephone number

Emergency telephone	T: +44 (0)1604 701111 (Miswa Office Hours Monday - Friday (0900Hrs -1700Hrs))

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H302
	Acute Tox. 4 - H312
	Acute Tox. 4 - H332
	STOT SE 1 - H370
Environmental hazards	Not Classified

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2.2. Label elements

Pictogram

Signal word	Danger
Hazard statements	H226: Flammable liquid and vapour. H302: Harmful if swallowed. H312: Harmful in contact with skin. H332: Harmful if inhaled. H370: Causes damage to organs.
Precautionary statements	P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P102: Keep out of reach of children. P260: Do not breathe vapour/spray. P370+P378: In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P311: IF exposed or concerned: Call a POISON CENTER/doctor. P501: Dispose of contents/container in accordance with local/ regional/national/international regulation.
Supplemental information	Contains: METHANOL
on the label:	Contains (Reg. (CE) 648/2004): perfume, BENZISOTHIAZOLINONE

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

The mixture is flammable: The mixture may emit toxic fumes in case of fire.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

METHANOL			10 - 29%
CAS number: 67-56-1	EC number: 200-659-6	REACH registration number: 01-2119433307-44-XXXX	Index N. (Annex VI - CLP Reg): 603-001-00-X

Classification CLP
Flam. Liq. 2 - H225
Acute Tox. 3 - H301
Acute Tox. 3 - H311
Acute Tox. 3 - H331
STOT SE 1 - H370
Specific Concentration Limits:
STOT SE 1, H370: $c \geq 10$ %
STOT SE 2, H371: $3\% \leq c < 10\%$

The Full Text for all Hazard Statements are displayed in Section 16. For exposure limits see ch. 8.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Never give anything by mouth to an unconscious person. Get medical attention if any discomfort continues.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get immediately medical attention and show the SDS or the label were possible. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Call immediately a Poison Center or doctor (show the SDS or the label were possible).
Skin contact	Remove affected person from source of contamination. Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Call immediately a Poison Center or doctor (show the SDS or the label were possible).
Eye contact	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Organic solvent vapours from this product are harmful, they may irritate throat/respiratory system. In the unlikely event of over exposure, symptoms which may develop include headache, fatigue, dizziness, drowsiness, nausea, vomiting.
Ingestion	The product is harmful if ingested; it may cause nausea, headache, dizziness, intoxication, vomiting, abdominal pain, drowsiness and unconsciousness. Methanol can cause blindness when ingested.
Skin contact	The product is harmful in contact with skin; it has a defatting effect and it may cause skin dryness or cracking. The product contains components which may penetrate the skin and might cause allergic contact eczema.
Eye contact	May cause temporary eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Medical monitoring:	To be undertaken in case of delayed effects known.
Immediate treatment at workplace	Inhalation: Fresh air, rest. Skin: Rinse and the wash skin with water and soap.

Eyes: First rinse with plenty of water for several minutes then take to a doctor.

Ingestion: Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

Notes for the doctor: No specific antidotes and contraindications are known.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media: Use fire-extinguishing media suitable for the surrounding fire. Extinguish with the following media: Alcohol-resistant foam. Carbon dioxide (CO_2). Water spray, fog or mist. Dry chemicals, sand, dolomite etc.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.1. Special hazards arising from the substance or mixture

Specific hazards: Fire creates: Toxic gases/vapours/fumes of: Carbon monoxide (CO), Carbon dioxide (CO_2). May explode when heated or when exposed to flames or sparks. Solvent vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. May form explosive or toxic mixtures with air. Vapour explosion and poison hazard indoors, outdoors and in sewers.

Hazardous combustion products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.2. Advice for firefighters

Protective actions during firefighting: Activate the required emergency procedures. Fire management must be carried out by trained personnel or firefighters.

The procedure for taming the fire must be chosen according to the characteristics of the fire and surrounding areas. Immediately evacuate, in a safe place, staff not involved in the procedures.

Don not try to extinguish fire without a self-contained breathing apparatus (SCBA) and suitable protective clothing. Wear boots, gloves, suits, eye and face protection complying with the standards UNI/EN. Cool containers exposed to fire and closed to it with water, even after the flames have been switched off. Remove containers from the fire area if this can be done safely.

Special protective equipment for firefighters: Do not try to extinguish the fire without the use of a self-contained breathing apparatus (SCBA) and suitable protective clothing.

Wear boots, gloves, suits, eye and face protection, suitable respirators, complying with the relevant UNI/EN standards. Employ devices suggested in the highest protection conditions based on the information reported in previous subsections

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Evacuate personnel in safe areas. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. In case of spills, beware of slippery floors and surfaces.

For emergency personnel: Stop the spillage, if you can do it safely. Ensure suitable respiratory protection is worn during removal of spillages in confined areas. Wear suitable protective equipment, including gloves,

goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. In case of spills, beware of slippery floors and surfaces. Take precautionary measures against static discharges. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Stop leak if possible without risk. DO NOT touch spilled material! Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain spillage with sand, earth or other suitable non-combustible material. Cover large spillages with alcohol-resistant foam. Collect and place the spilled product in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Recommendations for handling	Keep away from heat, sparks, open flame, sewage, surface water, and groundwater. Provide adequate ventilation. Avoid inhalation of vapours. Avoid contact with skin and eyes. Use approved respirator if air contamination is above an acceptable level. During application and drying, solvent vapours will be emitted.
Advice on occupational hygiene	Do not eat, drink and smoke in the working areas. Wash hands with water and soap after use. Remove contaminated clothing and personal protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Store in tightly-closed original container, labelled with the name of the product, in a dry, cool and well-ventilated place. Keep away from incompatible materials, heat and flames. May attack some plastics, rubber and coatings. Take precautionary measures against static discharges.
Storage class	Flammable liquid storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2. Read and understand all safety precautions before handling the product. Avoid inhalation, ingestion and contact with skin and eyes. Wear adequate protective equipment to avoid exposure.

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SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

METHANOL	Limit value – 8 hours	Limit value – short term
European Union (1) (3)	200 ppm, 260 mg/m^3 (skin)	-
United Kingdom(1)	200 ppm, 266 mg/m^3 (skin)	250 ppm, 333 mg/m^3 (skin)
ACGIH (2)	200 ppm	250 ppm

Community/National biological exposure limit values:

METHANOL (2)(4)	ACGIH BEI = 15 mg/L in urine, end of shift
	German BEI = 30 mg/l for long time exposure; after several shifts; end of exposure/end of shift

DNEL/PNEC values (components): METHANOL (67-56-1):

DNEL(4)	Industry - Dermal; Acute/Short term systemic effects: 40 mg/kg bw/day
	Industry - Dermal; Long term, systemic effects: 40 mg/kg bw/day
	Industry - Inhalation; Acute/Short term systemic effects: 260 mg/m³
	Industry - Inhalation; Long term systemic effects: 260 mg/m³
	Industry - Inhalation; Acute/Short term local effects: 260 mg/m³
	Industry - Inhalation; Long term local effects: 260 mg/m³
	Consumer - Dermal; Acute/Short term systemic effects: 8 mg/kg bw/day
	Consumer - Dermal; Long term systemic effects: 8 mg/kg bw/day
	Consumer - Inhalation; Acute/Short term systemic effects: 50 mg/m³
	Consumer - Inhalation; Long term systemic effects: 50 mg/m³
	Consumer - Inhalation; Acute/Short term local effects: 50 mg/m³
	Consumer - Inhalation; Long term local effects: 50 mg/m³
	Consumer - Oral; Acute/Short term systemic effects: 8 mg/m³
	Consumer - Oral; Long term systemic effects: 8 mg/m
PNEC(4)	- Fresh water; 20.8 mg/l
	- Marine water; 2.08 mg/l
	- Soil; 100 mg/kg soil dw
	- STP; 100 mg/l
	- Sediment (Freshwater); 77 mg/kg sediment dw
	- Sediment (Marinewater); 7.7 mg/kg sediment dw

8.2. Exposure controls

Protective equipment:

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection	Wear chemical splash goggles. Contact lenses should not be worn when working with this chemical.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: In case of intensive contact, wear protective gloves (EN 374). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. protective gloves shall be replaced immediately when physically damaged or worn. Appropriate Material - Butyl, Material Thickness - 0.6 to 0.8mm, Breakthrough Time - 8Hrs
Other skin and body protection	Wear apron or protective clothing in case of contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. Wash promptly with soap and water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Gas filter, type A2.

Environmental exposure controls: Avoid releases in the environment. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured liquid.
Colour	Blue.
Odour	Alcoholic. Perfume.
pH	6.5 to 8.5
Melting point	Below minus 20°C
Initial boiling point and range	Approximately 94°C @ 760 mm Hg
Flash point	36°C CC (Closed cup).
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 6.0 % v/v METHANOL IN AIR Upper flammable/explosive limit: 36.5% v/v METHANOL in AIR.
Relative density	0.955-0.970 g/ml @ 20°C
Solubility(ies)	Completely soluble in water. Very soluble in the following materials: Alcohols.
Comments	Information given is applicable to the product as supplied.

9.2. Other information

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Volatile organic compound	This product contains a maximum VOC content of 240.0 g/litre.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not applicable. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidising agents.

10.5. Incompatible materials

Materials to avoid	Strong oxidising agents. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products	Fire creates: Thermal decomposition or combustion products may include the following substances: Acrid smoke or fumes. Carbon monoxide (CO). Carbon dioxide (CO2).

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

The health effects of the product have not been thoroughly investigated. Data on toxicological effects of the hazardous ingredients are provided bellow.

Symptoms and effects for each route of exposure:

Dermal:	Harmful: possible risk of irreversible effects in contact with skin. Contains components which may penetrate the skin. Product has a defatting effect on skin. Repeated exposure may cause skin dryness or cracking. Might cause allergic contact eczema.
Oral:	Harmful: possible risk of irreversible effects if swallowed. May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause headaches, nausea, vomiting, abdominal pain, drowsiness and unconciousness. Methanol can cause blindness when ingested.
Inhalation:	Harmful: possible risk of irreversible effects through inhalation. Vapours may irritate throat/respiratory system. Symptoms following overexposure may include the following: Headache. Dizziness. Drowsiness. Vapours in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.
Eye contact:	May cause temporary eye irritation.
Information on toxicokinetics (Absorption, Distribution, Metabolism, Excretion):	Methanol: is readily absorbed by inhalation, ingestion and dermal contact and distributes rapidly throughout the body (organs and tissues). The metabolism of methanol occurs mainly in the liver in mammals, by sequential oxidative steps to formaldehyde, formic acid and carbon dioxide. In humans and monkeys, the conversion to formaldehyde is mediated by alcohol dehydrogenase. Primates accumulate formate at lower doses of methanol than some other species. Studies indicate that formate is the methanol metabolite responsible for methanol toxicity resulting in systemic clinical signs, metabolic acidosis, and ophthalmic effects in primates. Metabolism in humans, rodents, and monkeys contributes up to 98 % of the clearance, with more than 90 % of the administered dose exhaled as carbon dioxide. Renal and pulmonary excretion contributes only about 2–3 %. Kinetic studies in methanol poisoned patients showed that the half-life of formate in blood is 3,4 hours. (6)
Acute toxicity	Value, m.u., effects
Oral:	*Methanol*(4)(5): LD50 (rat) =1187 but less than 2769 mg/kg bw . The rat is known to be insensitive to the toxicity of methanol and is thus not considered to be a good model for human effects (different effect/mode of action). *Methanol* (4): The minimal acute methanol dose to humans that can result in death is considered to be 300 to 1000 mg/kg by ingestion. *Methanol:* STE cat 3 oral = 100 mg/Kg (Table 3.1.2, CLP Regulation) *Mixture:* ATE = 1034.5 mg/kg (calculated, based on Minimum Lethal Dose oral)
Dermal:	*Methanol*(4): LD50 (rabbits) = 17100 mg/kg bw. *Methanol (6):* In Rhesus monkeys, four daily doses of 400 mg/kg bw caused sickness within 24 hours, and eventually death (OECD, 2004). Limited data available on monkeys indicate that the chemical is toxic via the dermal route, and the oral data indicate that humans have higher susceptibility when compared with monkeys. *Methanol:* STE cat 3 dermal = 300 mg/Kg (Table 3.1.2, CLP Regulation) *Mixture:* ATE =1034,5 mg/Kg (calculated, based on STE cat 3 dermal)
Inhalation:	*Methanol (6):* LC50 (rat) = 67000 mL/m³/6 h (87.5 mg/L) and 98000 mL/m³/4 h (128.2 mg/L) with toxic effects (aqueous secretion of eyes and nose, laboured breathing, staggering, apathy, and narcosis) (OECD, 2004). LC50 (mouse) = approximately 79 mg/L (2.25 h) with narcotic doses of 40 and 55 mg/L after 2.2 and 7 hours respectively (OECD, 2004). LC50 (monkey) = 13 mg/L (18 h) and 52 mg/L (1-4 h). Blindness associated with optic atrophy and eventual recovery from it was reported (OECD, 2004).

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The susceptibility of humans to methanol toxicity is higher than that of rodents. However, data available on humans indicate severe visual disturbances at methanol air levels of about 1.5 mg/L or more (OECD, 2004).
Methanol [7]*:* LDLo (human) = 300 ppm. Headache, visual field changes, other changes in lung, thorax or respiration.
Methanol: STE cat 3 inhalation vapours = 3 mg/l (Table 3.1.2, CLP regulation)
Mixture: ATE inhalation mixture = 10.35 mg/l (calculated, based on STE cat 3 inhalation)

Other data: Methanol [8]: In humans, transient central nervous system (CNS) effects appear above blood methanol levels of 200 mg/L and serious ocular symptoms appear above 500 mg/L.

Skin Corrosion/Irritation

Methanol: in vivo test on rabbit: no adverse effect observed (not irritating).[4]
Mixture: Based on available data the classification criteria are not met.

Serious eye damage/irritation

Methanol: In six rabbits, mild to moderate conjunctivitis and oedema as well as mild iritis were produced after instillation of 0.1 mL undiluted methanol into the eyes. Average scores after 24, 48, and 72 h were approximately two for conjunctival redness and less than one for other effects. Primary irritation subsided although redness of the conjunctivae persisted after 72 hours (OECD, 2004). [4][6]
Mixture: Based on available data the classification criteria are not met.

Skin sensitization

Methanol is not considered to be a skin sensitiser in guinea pigs. [4][6]
Mixture: Based on available data the classification criteria are not met.

Respiratory sensitization

Methanol is not considered to be a respiratory sensitiser in guinea pigs. [4][6]
Mixture: Based on available data the classification criteria are not met.

Germ cell mutagenicity

Methanol: the majority of in vitro and in vivo assays on methanol are negative for mutagenicity and clastogenicity. However, a few of the in vitro assays were positive or ambiguous. The positive findings can not be evaluated since the available data base is limited. [4][6]
Mixture: Based on available data the classification criteria are not met.

Reproductive toxicity

Methanol: Based on the data available, the chemical is not considered to have reproductive or developmental toxicity in humans. No impairment of fertility or reproductive performance was reported in male and female rats exposed to the chemical, unless at very high doses. [4][6]
NOAEC (maternal toxicity) = 1.3 mg/L for rats [4]
NOAEC (teratogenicity = 1.3 mg/L for rats [4]
NOAEC (maternal toxicity) = 2.39 mg/L for monkeys [4]
NOAEC (teratogenicity) = 2.39 mg/L for monkeys [4]
Negative for spermatozoa morphological anomalies: NOAEL (oral) = 1000 mg/kg bw/day [4]
No epidemiological studies in humans have been located to demonstrate that there is a link between methanol exposure and an increased incidence of fetal malformations or developmental impairment. [8]
Mixture: Based on available data the classification criteria are not met.

Carcinogenesis

Methanol: Several studies showed carcinogenicity for mouse and rat via oral or inhalation route. The validity of the studies have been callenged and can therefore not be transferred to humans. The weight of evidence suggests that methanol is not carcinogenic (OECD, 2004).[4][6]
Mixture: Based on available data the classification criteria are not met.

STOT –single exposure

Methanol: Exposure (time not specified) to an atmosphere saturated by methanol vapours at 20 °C produced severe irritation of mucous membranes and milky corneal opacity in rats. The exposure led to mortality of all animals after eight hours (OECD, 2004). [6]
Mixture: Based on available data (cut off value of methanol), the classification criteria are met.

STOT – repeated exposure

Methanol: Seven male monkeys received daily doses of 2340 mg/kg bw methanol as 30% aqueous solution by oral gavage for three days. Under the test conditions, this dosage was lethal for all seven animals. Oral: LOAEL subacute = 2340 mg/kg/bw in monkeys (mortality 7/7 after 3 d exposure). (4)

In a whole-body inhalation study in monkeys exposed to 0.013, 0.13, and 1.3 mg/L for 21 hours/day, 7 days/week for 7, 19, and 29 months, several general clinical signs as well as degenerative effects in the brain (at 0.13 and 1.3 mg/L), slight peripheral nerve damage (at 0.13 and 1.3 mg/L), very slight degeneration of the optic nerve (concentrations not noted), increased fat granules and slight fibrosis in the liver (all concentrations) as well as Sudan positive granules in the kidney were observed (at 0.13 and 1.3 mg/L). Also, a slight myocardial disorder (at 0.13 and 1.3 mg/L) and localized effects in the trachea and possible slight fibrosis in the lungs (concentrations not noted) were observed. Inhalation: NOAEC chronic = 0.013 mg/l air in monkeys (7 to 29 months exposure). (4)

In rodents methanol is metabolized to carbon dioxide to a great extent, whereas in primates formate accumulation is responsible for the observed effects. (4)

Repeated dose toxicity: via oral route – systemic effects (target organ) neurologic: eyes (retina, optic nerve). Repeated dose toxicity: inhalation – systemic effects (target organ) cardiovascular/hematological: heart; digestive: liver; neurologic: brain (multiple sections). (6)

Mixture: Based on available data the classification criteria are not met.

Aspiration hazard:

Mixture: Based on available data the classification criteria are not met.

SECTION 12: Ecological Information

The product relevant components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment. The environmental effects of the product have not been thoroughly investigated. Methanol is expected to exert toxicity to aquatic species through simple narcosis; the available data demonstrate consistently the very low acute toxicity to methanol for aquatic organism.

12.1 Toxicity

species, media, units, test duration and test conditions.

Acute/Chronic toxicity with fish:

Methanol(4):
LC50 Pimephales promelas (96h) = 28100 mg/L
LC50 Oncorhynchus mykiss (96h) = 20100 mg/L
LC50 Lepomis macrochirus (96h) = 15400 mg/L
NOEC Oryzias latipes (200h) = 7900 - 15800 mg/L
Mixture: Based on available data the classification criteria are not met.

Acute/Chronic toxicity with crustaceans:

Methanol(4):
EC50 Daphnia magna (48h) > 10000 mg/L
NOEC Daphnia magna (21 d) = 122 mg/L
Mixture: Based on available data the classification criteria are not met.

Acute/Chronic toxicity with algae:

Methanol(4):
EC50 Selenastrum capricornutum (96h) ca. 22000 mg/L
Mixture: Based on available data the classification criteria are not met.

Toxicity data on macroorganisms

Methanol(4):
EC50 activated sludge: 19800 mg/L
IC50 activated sludge: >1000 mg/L
IC50 Nitrosamonas: 880 mg/L
Toxic limit concentration Pseudomonas, Microcystis aeruginosa.: 530 - 6600 mg/L
Mixture: Based on available data the classification criteria are not met.

12.2. Persistency and degradability:	*Methanol*[8]*:* is readily biodegradable. It does not undergo hydrolysis. Volatilization is not a significant removal process from the aquatic compartment. Methanol is degraded in the atmosphere by photochemical, hydroxyl-radical dependent reactions. *Mixture:* The product is biodegradable but it must not be discharged into drains without permission from the authorities. The surfactant(s) contained in this product complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request, or at the request of a detergent manufacturer.
12.3. Bioaccumulative potential:	*Methanol*[4]: I does not significantly bioaccumulate in fish. Experimental BCFs of < 10 in fish species, including Cyprinus carpio and Leuciscus idus, have been reported. *Mixture:* The product does not contain any substances expected to be bioaccumulating.
12.4. Mobility in soil	*Methanol*[9]: The low octanol/water partition coefficient value of -0.7 suggest a high mobility in soil. *Mixture:* The product is soluble in water. The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.
12.5. Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
12.6. Other toxic effects:	Not expected. Do not allow material to contaminate ground water system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. The packaging must be empty (drop-free when inverted).
Disposal methods	Absorb in vermiculite, dry sand or earth and place into containers. Dispose of waste via a licensed waste disposal contractor. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Observe local and national legislation on waste disposal and local and community waste recycling regulations. Waste arising from product use, accidental residues or spills must be disposed of in accordance with national or local laws.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993
UN No. (ADN)	1993

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	FLAMMABLE LIQUID, N.O.S. (CONTAINS METHANOL)

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Proper shipping name (IMDG) FLAMMABLE LIQUID, N.O.S. (CONTAINS METHANOL)

Proper shipping name (ICAO) FLAMMABLE LIQUID, N.O.S. (CONTAINS METHANOL)

Proper shipping name (ADN) FLAMMABLE LIQUID, N.O.S. (CONTAINS METHANOL)

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-E
ADR transport category	3
Emergency Action Code	•3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Control of Pollution (Special Waste) Regulations 1980 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
EU legislation	Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (Official Journal L 183 , 29/06/1989 P. 0001 – 0008) and following amendment and National reinforcements. Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to the personal protective equipment. Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) Official Journal L 131 , 05/05/1998 P. 0011 – 0023. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131.

Restriction of use: none

Substance(s) under authorisation: none

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	HS&E Manager.
Revision date	11/01/2016
Revision	4
Supersedes date	27/05/2015
SDS number	10010
SDS status	Approved.
Revision date	18/12/2017

POLYGARD SCREENWASH (ARCTIC) CONCENTRATE (-20°C)

Revision	5
Supersedes date	11/01/2016
SDS number	10010
SDS status	Approved
Hazard statements in full	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H301 Toxic if swallowed. H302 Harmful if swallowed. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H331 Toxic if inhaled. H332 Harmful if inhaled. H370 Causes damage to organs. H371 May cause damage to organs

Acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: Agreement concerning the carriage of dangerous goods by Road

ATE: acute toxicity estimate

BCF: Bioaccumulative factor

BEI: Biological Esposure Indices

CAS: Chemical Abstract Service (division of the American Chemical Society

CLP: Classification, Labeling and Packaging

DNEL: Derived No-Effect Levels

EC50: the effect concentration associated with 50% response.

EINECS: European Inventory of Existing Commercial Substances

IATA : International Air Transport Association Code

IMDG: International Maritime Dangerous Goods Code

LC50: Lethal Concentration to 50 % of a test population

LD50: Lethal Dose to 50% of a test population (Median Lethal Dose)

NOAEL: No Observed Adverse Effect Level)

NOEC: no observed effect concentration, means the test concentration immediately below the lowest tested concentration with statistically significant adverse effect.

OEL: Occupational Exposure Limit

OECD: Organisation for Economic Co-operation and Development

PPE : Personal protective Equipment

PBT: Persistent, Bioaccumulative and Toxic substances

PNEC: Predicted No Effect Concentration

RID: Regulation concerning the International carriage of Dangerous goods by rail

STE: Converted acute toxicity point estimate

TLV/TWA: Threshold Limit Value/Threshold Weighted Average

vPvB: very Persistent, very Bioaccumulative

Information on workers training: Follow criteria of Directive 98/24/EC, its amendments and National reinforcements.

POLYGARD SCREENWASH (ARCTIC) CONCENTRATE (-20°C)

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008:

Classification according to Regulation (EC) Nr. 1272/2008:	*Classification procedure*
Flam. Liq. 3 - H226	data on the mixture itself
Acute Tox. 4 - H302	calculation method
Acute Tox. 4 - H312	calculation method
Acute Tox. 4 - H332	calculation method
STOT SE 1 - H370	cut off method

Bibliographic sources:

(1) GESTIS International Limit Values, available on http://limitvalue.ifa.dguv.de/WebForm_ueliste.aspx

(2) ACGIH 2017, TLVs and BEIs based on the Documentation of the Threshold Limit Values for chemical substances and Physical Agents & Biological Exposure Indices

(3) COMMISSION DIRECTIVE 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC

(4) Methanol, Reach Registration Dossier on ECHA, https://echa.europa.eu/it/registration-dossier/-/registered-dossier/15569/1

(5) Guidance on the Application of the CLP Criteria, Version 5.0, July 2017

(6) http://www.nicnas.gov.au/chemical-information/imap-assessments/imap-assessment-details?assessment_id=115, INVENTORY MULTI-TIERED ASSESSMENT AND PRIORITISATION (IMAP), HUMAN HEALTH TIER II ASSESSMENT FOR Methanol,CAS 67-56-1

(7) RTECS: PC1400000 The Registry of Toxic Effects of Chemical Substances, Methanol

(8) SIDS Initial Assessment Report For SIAM 19 Berlin, Germany, 18-20 October, 2004, Methanol

(9) www.ymparisto.fi, Data bank of environmental properties of chemicals , Methanol