

SAFETY DATA SHEET

Motaquip Engine Flush

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

1.1. Product identifier

Product name	Motaquip Engine Flush
Product number	VOL401
Internal identification	B14991, 20601

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

Identified uses	Engine Flush
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	MOTAQUIP LIMITED Unit B1, Luton Enterprise Park, Sundon Park Road, Luton Bedfordshire LU3 3GU
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1.4. Emergency telephone number

Emergency telephone	Tel:
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

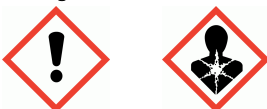
Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 3 - H412

Classification (67/548/EEC or 1999/45/EC) Xn;R48/20,R65. Repr. Cat. 3;R63. Xi;R38. R10,R67.

Human health Repeated exposure may cause skin dryness or cracking. Harmful: may cause lung damage if swallowed.

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements	P264 Wash contaminated skin thoroughly after handling.
	P273 Avoid release to the environment.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
	P302+P352 IF ON SKIN: Wash with plenty of water.
	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P321 Specific treatment (see medical advice on this label).
	P331 Do NOT induce vomiting.
	P332+P313 If skin irritation occurs: Get medical advice/ attention.
	P337+P313 If eye irritation persists: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.	
P405 Store locked up.	
P501 Dispose of contents/ container in accordance with national regulations.	

Supplemental label information RCH002a Restricted to professional users.

Contains DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Detergent labelling ≥ 30% aliphatic hydrocarbons

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT			60-100%
CAS number: 64742-47-8	EC number: 265-149-8	REACH registration number: 01-2119484819-18-XXXX	
Classification	Classification (67/548/EEC or 1999/45/EC)		
Asp. Tox. 1 - H304	Xn;R65. R66.		
2-BUTOXYETHANOL			10-30%
CAS number: 111-76-2	EC number: 203-905-0	REACH registration number: 01-2119475108-36-XXXX	
Classification	Classification (67/548/EEC or 1999/45/EC)		
Acute Tox. 4 - H302	Xn;R20/21/22 Xi;R36/38		
Acute Tox. 4 - H312			
Acute Tox. 4 - H332			
Skin Irrit. 2 - H315			
Eye Irrit. 2 - H319			
DISTILLATES(PETROLEUM), SOLVENT-REFINED HEAVY PARAFFINIC BASE OIL			1-5%
CAS number: 64742-65-0	EC number: 265-169-7	REACH registration number: 01-2119471299-27-XXXX	
Classification	Classification (67/548/EEC or 1999/45/EC)		
Not Classified	-		

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SODIUM PETROLEUM SULFONATE 1-5%		
CAS number: 68608-26-4	EC number: 271-781-5	REACH registration number: 01-2119527859-22-XXXX
Classification Eye Irrit. 2 - H319	Classification (67/548/EEC or 1999/45/EC) Xi;R41.	
BENZENESULFONIC ACID, MONO-C16-24- ALKYL DERIVS.,CALCIUM SALTS <1%		
CAS number: 70024-69-0	EC number: 274-263-7	REACH registration number: 01-2119492616-28-XXXX
Classification Eye Irrit. 2 - H319	Classification (67/548/EEC or 1999/45/EC) Xi;R36.	
PHOSPHORODITHIOIC ACID, mixed O,O-bis (iso-Bu and pentyl) ESTERS, ZINC SALTS <1%		
CAS number: 68457-79-4	EC number: 270-608-0	REACH registration number: 01-2119493628-22-XXXX
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 2 - H411	Classification (67/548/EEC or 1999/45/EC) Xi;R38,R41. N;R51/53.	
DODECYLPHENOL, BRANCHED <1%		
CAS number: 121158-58-5	EC number: 310-154-3	REACH registration number: 01-2119513207-49-XXXX
M factor (Acute) = 10	M factor (Chronic) = 10	
Classification Skin Corr. 1C - H314 Eye Dam. 1 - H318 Repr. 2 - H361 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Classification (67/548/EEC or 1999/45/EC) Repr. Cat. 3;R62. Xi;R36/38. N;R50/53.	
PHOSPHORODITHIOIC ACID, mixed O, O-BIS(1,3-DIMETHYLBUTYL and ISO-PR)ESTERS, ZINC SALTS <1%		
CAS number: 84605-29-8	EC number: 283-392-8	REACH registration number: 01-2119493626-26-XXXX
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 2 - H411	Classification (67/548/EEC or 1999/45/EC) Xi;R38,R41. N;R51/53.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Inhalation	Move affected person to fresh air at once. Get medical attention. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Give plenty of water to drink. Get medical attention immediately. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

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

Inhalation	Vapours and spray/mists in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.
Ingestion	Always assume aspiration may have occurred. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. May give rise to nausea, vomiting, central nervous system depression.
Skin contact	Causes skin irritation. Prolonged or repeated exposure may cause severe irritation. Product has a defatting effect on skin.
Eye contact	May cause severe eye irritation. Redness. Pain.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.
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5.3. Advice for firefighters

Protective actions during firefighting	Extinguishing waters may present a risk of damage to the environmental, collect and dispose of as hazardous waste, in accordance with local legislation. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.
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Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Stop leak if possible without any risk. Contain and collect extinguishing water. Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Use non sparking handtools and explosion-proof electric equipment. Absorb in vermiculite, dry sand or earth and place into containers. Dispose of waste via a licensed waste disposal contractor.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level. Earth container and transfer equipment to eliminate sparks from static electricity. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Do not store near heat sources or expose to high temperatures. Keep only in the original container.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Long-term exposure limit (8-hour TWA): WEL 165 ppm 1200 mg/m³ vapour

2-BUTOXYETHANOL

Long-term exposure limit (8-hour TWA): WEL 25 ppm 123 mg/m³

Short-term exposure limit (15-minute): WEL 50 ppm 246 mg/m³

Sk

DISTILLATES(PETROLEUM), SOLVENT-REFINED HEAVY PARAFFINIC BASE OIL

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Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³ Inhalable Fraction.

Long-term exposure limit (8-hour TWA): EH40-MEL (Europe 2002) 5 mg/m³

SOLVENT REFINED LIGHT PARAFFINIC DISTILLATE

No exposure limit value known.

BENZENESULFONIC ACID, MONO-C16-24- ALKYL DERIVS.,CALCIUM SALTS

No exposure limit value known.

PHOSPHORODITHIOIC ACID, mixed O,O-bis (iso-Bu and pentyl) ESTERS, ZINC SALTS

No exposure limit value known.

DODECYLPHENOL, BRANCHED

No exposure limit value known.

PHOSPHORODITHIOIC ACID, mixed O, O-BIS(1,3-DIMETHYLBUTYL and ISO-PR)ESTERS, ZINC SALTS

No exposure limit value known.

WEL = Workplace Exposure Limit

Sk = Can be absorbed through skin.

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT (CAS: 64742-47-8)

DNEL No DNEL available.

PNEC No PNEC available.

2-BUTOXYETHANOL (CAS: 111-76-2)

DNEL Industry - Dermal; Short term : 89 mg/kg/day
 Industry - Inhalation; Short term : 663 mg/m³
 Industry - Dermal; Long term : 75 mg/kg/day
 Industry - Inhalation; Long term : 98 mg/m³
 Consumer - Dermal; Short term : 44.5 mg/kg/day
 Consumer - Oral; Short term : 13.4 mg/kg/day
 Consumer - Inhalation; Short term : 123 mg/m³
 Consumer - Inhalation; Long term : 49 mg/m³

PNEC - Fresh water; 8.8 mg/l
 - Marine water; 0.88 mg/l
 - Soil; 3.13 mg/kg soil dw
 - Intermittent release; 9.1 mg/l
 - Sediment (Freshwater); 34.6 mg/kg sediment dw
 - Sediment (Marinewater); 3.46 mg/kg sediment dw
 - STP; 463 mg/l

DISTILLATES(PETROLEUM), SOLVENT-REFINED HEAVY PARAFFINIC BASE OIL (CAS: 64742-65-0)

DNEL No DNEL available.

PNEC No PNEC available.
 Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

SODIUM PETROLEUM SULFONATE (CAS: 68608-26-4)

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DNEL Workers - Inhalation; Long term systemic effects: 0.66 mg/m³
Workers - Dermal; Long term systemic effects: 3.33 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 0.33 mg/m³
General population - Dermal; Long term systemic effects: 1.667 mg/kg bw/day
General population - Oral; Long term systemic effects: 0.8333 mg/kg bw/day

PNEC - Fresh water; 1 mg/l
- Marine water; 1 mg/l
- Intermittent release; 10 mg/l
- STP; 100 mg/l

SOLVENT REFINED LIGHT PARAFFINIC DISTILLATE (CAS: 64742-54-7)

DNEL No DNEL available.

PNEC No PNEC available.

BENZENESULFONIC ACID, MONO-C16-24- ALKYL DERIVS.,CALCIUM SALTS (CAS: 70024-69-0)

DNEL Workers - Inhalation; Long term systemic effects: 11.75 mg/m³
Workers - Dermal; Long term systemic effects: 3.33 mg/kg bw/day
Workers - Dermal; Long term local effects: 1.03 mg/cm²
General population - Inhalation; Long term systemic effects: 2.9 mg/m³
General population - Dermal; Long term systemic effects: 1.667 mg/kg bw/day
General population - Dermal; Long term local effects: 0.513 mg/cm²
General population - Oral; Long term systemic effects: 0.8333 mg/kg bw/day

PNEC - Fresh water; 1 mg/l
- Marine water; 1 mg/l
- Intermittent release; 10 mg/l
- STP; 1000 mg/l
- Sediment (Freshwater), Sediment (Marinewater); 226000000 mg/kg sediment dw
- Soil; 271000000 mg/kg soil dw

PHOSPHORODITHIOIC ACID, mixed O,O-bis (iso-Bu and pentyl) ESTERS, ZINC SALTS (CAS: 68457-79-4)

DNEL Workers - Inhalation; Long term systemic effects: 8.13 mg/m³
Workers - Dermal; Long term systemic effects: 11.87 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 2.06 mg/m³
General population - Dermal; Long term systemic effects: 5.93 mg/kg bw/day
General population - Oral; Long term systemic effects: 0.24 mg/kg bw/day

PNEC - Fresh water; 0.04 mg/l
- Marine water; 0.0046 mg/l
- Intermittent release; 0.045 mg/l
- STP; 100 mg/l

DODECYLPHENOL, BRANCHED (CAS: 121158-58-5)

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DNEL	Workers - Inhalation; Long term systemic effects: 1.7621 mg/m ³
	Workers - Inhalation; Short term Acute: 44.18 mg/m ³
	Workers - Dermal; Long term systemic effects: 0.25 mg/kg bw/day
	Workers - Dermal; Short term Acute: 166 mg/kg bw/day
	General population - Inhalation; Long term systemic effects: 0.79 mg/m ³
	General population - Inhalation; Short term Acute: 13.26 mg/m ³
	General population - Dermal; Long term systemic effects: 0.075 mg/kg bw/day
	General population - Dermal; Short term Acute: 50 mg/kg bw/day
	General population - Oral; Long term systemic effects: 0.075 mg/kg bw/day
General population - Oral; Short term Acute: 1.26 mg/kg bw/day	
PNEC	- Fresh water; 0.000074 mg/l
	- Marine water; 0.0000074 mg/l
	- Intermittent release; 0.00037 mg/l
	- Sediment (Freshwater); 0.226 mg/kg sediment dw
	- Sediment (Marinewater); 0.0266 mg/kg sediment dw
	- Soil; 0.118 mg/kg soil dw
	- STP; 100 mg/l

PHOSPHORODITHIOIC ACID, mixed O, O-BIS(1,3-DIMETHYLBUTYL and ISO-PR)ESTERS, ZINC SALTS (CAS: 84605-29-8)

DNEL	Workers - Inhalation; Long term systemic effects: 8.31 mg/m ³
	Workers - Dermal; Long term systemic effects: 12.1 mg/kg bw/day
	General population - Inhalation; Long term systemic effects: 2.11 mg/m ³
	General population - Dermal; Long term systemic effects: 6.1 mg/kg bw/day
	General population - Oral; Long term systemic effects: 0.24 mg/kg bw/day
PNEC	- Fresh water; 0.004 mg/l
	- Marine water; 0.0046 mg/l
	- Intermittent release; 0.045 mg/l
	- STP; 100 mg/l
	- Soil; 0.0548 mg/kg soil dw

N,N-diethyl-4-(phenylazo)-Benzeneamine (CAS: 2481-94-9)

DNEL	No DNEL available.
PNEC	No PNEC available.

SOLVENT BLUE 35 (ANTHRAQUINONE-DYE) (CAS: 17354-14-2)

DNEL	No DNEL available.
PNEC	No PNEC available.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Use safety glasses (with side shields), consistent with EN 166 or equivalent.

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Hand protection	Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection (EN 407), when needed. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
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. Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. Do not eat, drink or smoke when using this product.
Respiratory protection	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.
Environmental exposure controls	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	Clear liquid.
Colour	Green.
Odour	Characteristic. Hydrocarbons. Solvent.
Initial boiling point and range	165°C @ 760 mm Hg
Flash point	62°C CC (Closed cup).
Relative density	0.830 - 0.840 @ 20°C
Solubility(ies)	Insoluble in water.

9.2. Other information

Volatile organic compound	This product contains a maximum VOC content of 780 g/litre.
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SECTION 10: Stability and reactivity

Motaquip Engine Flush

10.1. Reactivity

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Take precautionary measures against static discharges.

10.5. Incompatible materials

Materials to avoid Strong acids. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide (CO). Hydrocarbons. Aldehydes. Carbon dioxide (CO₂). soot

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 6,900.93

Acute toxicity - dermal

ATE dermal (mg/kg) 9,760.86

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 97.61

Skin corrosion/irritation

Animal data Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Irritating to eyes: Category 2.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

General information

To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

Inhalation

Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion

Pneumonia may be the result if vomited material containing solvents reaches the lungs. May be fatal if swallowed and enters airways.

Skin contact

Product has a defatting effect on skin. The product is irritating to eyes and skin.

Eye contact

May cause severe eye irritation.

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Acute toxicity - oral

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Acute toxicity oral (LD₅₀ mg/kg)	5,001.0
Species	Rat
ATE oral (mg/kg)	5,001.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,001.0
Species	Rabbit
ATE dermal (mg/kg)	2,001.0
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ dust/mist mg/l)	5.21
Species	Rat
ATE inhalation (dusts/mists mg/l)	5.21
<u>Skin corrosion/irritation</u>	
Animal data	Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not irritating.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information required.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Negative.
Genotoxicity - in vivo	Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	Conclusive data but not sufficient for classification.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Fertility: - NOAEL >3000 mg/kg/day, Oral, Rat Method OECD Test guideline 421. This substance has no evidence of toxicity to reproduction
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 1000 mg/kg/day, Oral, Rat Method OECD 414. This substance has no evidence of toxicity to reproduction.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Conclusive data but not sufficient for classification.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 750 mg/kg, Oral, Rat

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Inhalation	No specific health hazards known.
Ingestion	Harmful: may cause lung damage if swallowed. Pneumonia may be the result if vomited material containing solvents reaches the lungs.
Skin contact	No specific health hazards known.
Eye contact	No specific health hazards known.

2-BUTOXYETHANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,414.0

Species Guinea pig

ATE oral (mg/kg) 1,414.0

Acute toxicity - dermal

ATE dermal (mg/kg) 2,000.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 20.0

Skin corrosion/irritation

Extreme pH Slightly irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Slightly irritating. Rabbit

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development No evidence of reproductive toxicity in animal studies.

Inhalation Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

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Ingestion	Harmful: may cause lung damage if swallowed. Pneumonia may be the result if vomited material containing solvents reaches the lungs.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	Irritation of eyes and mucous membranes.
Route of entry	Ingestion Inhalation
Target organs	Brain Respiratory system, lungs Mucous membranes
Medical symptoms	Skin irritation. Irritation of eyes and mucous membranes. High concentration of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

SECTION 12: Ecological Information

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Acute toxicity - fish	LL ₅₀ , 96 hours: 20 mg/l, Onchorhynchus mykiss (Rainbow trout) NOEL, 96 hours: 6.8 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EL ₅₀ , 48 hours: 40-89 mg/l, Daphnia magna NOEL, 48 hours: 40 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EL ₅₀ , 72 hours: 10-30 mg/l, Pseudokirchneriella subcapitata NOEL, 72 hours: 10 mg/l, Pseudokirchneriella subcapitata
Acute toxicity - microorganisms	EC ₅₀ , 72 hours: 678 mg/l, Activated sludge

2-BUTOXYETHANOL

Acute toxicity - fish	LC ₅₀ , 96 hours: 1464 mg/l, Onchorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1800 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 911 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 88 mg/l, Pseudokirchneriella subcapitata

12.2. Persistence and degradability

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Persistence and degradability	Inherently biodegradable.
Phototransformation	Not applicable.
Stability (hydrolysis)	Not applicable.
Biodegradation	Inherently biodegradable.

2-BUTOXYETHANOL

Motaquip Engine Flush

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Bioaccumulative potential Substance is a hydrocarbon UVCB. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

2-BUTOXYETHANOL

Partition coefficient log Pow: < 2 : 0.8

12.4. Mobility in soil

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Mobility Substance is a UVCB. Standard tests for this endpoint are not appropriate. The product is immiscible with water and will spread on the water surface.

2-BUTOXYETHANOL

Mobility The product is soluble in water.

Henry's law constant 0.0098 Pa m³/mol @ °C

12.5. Results of PBT and vPvB assessment

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

2-BUTOXYETHANOL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

DISTILLATES(PETROLEUM), HYDROTREATED LIGHT

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

Motaquip Engine Flush

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).
Road transport notes	Not classified.
Rail transport notes	Not classified.
Sea transport notes	Not classified.
Air transport notes	Not classified.

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

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.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

National regulations

Rivers (Prevention of Pollution) Act 1961.
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

Dangerous Substances Directive 67/548/EEC.
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.

15.2. Chemical safety assessment

Motaquip Engine Flush

No chemical safety assessment has been carried out.

SECTION 16: Other information

Issued by	HS&E Manager.
Revision date	16/12/2016
Revision	4
Supersedes date	12/06/2015
SDS number	20518
SDS status	Approved.
Risk phrases in full	<p>R10 Flammable.</p> <p>R11 Highly flammable.</p> <p>R38 Irritating to skin.</p> <p>R41 Risk of serious damage to eyes.</p> <p>R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.</p> <p>R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>R63 Possible risk of harm to the unborn child.</p> <p>R65 Harmful: may cause lung damage if swallowed.</p> <p>R66 Repeated exposure may cause skin dryness or cracking.</p> <p>R67 Vapours may cause drowsiness and dizziness.</p>
Hazard statements in full	<p>H302 Harmful if swallowed.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H312 Harmful in contact with skin.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H315 Causes skin irritation.</p> <p>H318 Causes serious eye damage.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H361 Suspected of damaging fertility or the unborn child.</p> <p>H400 Very toxic to aquatic life.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p> <p>H411 Toxic to aquatic life with long lasting effects.</p> <p>H412 Harmful to aquatic life with long lasting effects.</p>

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.