SAFETY DATA SHEET
QUANTUM GLASS CLEANER

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

1.1. Product identifier

Product name QUANTUM GLASS CLEANER

Product number ZGBGLASCLEA05L, ZGBGLASCLEN750

Internal identification B50905, 30052, 30066

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

Identified uses Glass 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

Volkswagen Group United Kingdom Ltd
Yeomans Drive
Blakelands
Milton Keynes

MK14 5AN
01908 601601

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 3 - H226

Health hazards Eye Irrit. 2 - H319

Environmental hazards Not Classified

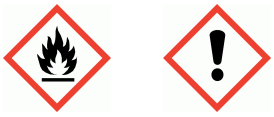
Human health The product contains small amounts of organic solvents.

Environmental The product is not expected to be hazardous to the environment.

Physicochemical When handled correctly, undamaged units represent no danger.

2.2. Label elements

Pictogram



Signal word Warning

Hazard statements H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.

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Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container in accordance with national regulations.
P102 Keep out of reach of children.

Contains PROPAN-2-OL

Detergent labelling < 5% perfumes, Contains BENZISOTHIAZOLINONE

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

PROPAN-2-OL **5-10%**

CAS number: 67-63-0 | EC number: 200-661-7 | REACH registration number: 01-2119457558-25-XXXX

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336

2-BUTOXYETHANOL **1-5%**

CAS number: 111-76-2 | EC number: 203-905-0 | REACH registration number: 01-2119475108-36-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Acute Tox. 4 - H332
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319

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SODIUM LAURYL ETHER SULPHATE **<1%**

CAS number: 9004-82-4

Classification
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Dam. 1 - H318
Aquatic Chronic 3 - H412

BENZALDEHYDE **<1%**

CAS number: 100-52-7 EC number: 202-860-4 REACH registration number: 01-2119455540-44-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H332
Eye Irrit. 2 - H319
STOT SE 3 - H335

PROPYLENE GLYCOL **<1%**

CAS number: 57-55-6 EC number: 200-338-0 REACH registration number: 01-2119456809-23-XXXX

Classification
Not Classified

ETHYL ACETATE **<1%**

CAS number: 141-78-6 EC number: 205-500-4 REACH registration number: 01-2119475103-46-XXXX

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336

SODIUM HYDROXIDE **<1%**

CAS number: 1310-73-2 EC number: 215-185-5 REACH registration number: 01-2119457892-27-XXXX

Classification
Met. Corr. 1 - H290
Skin Corr. 1A - H314
Eye Dam. 1 - H318

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Heliotropine		**<1%**
CAS number: 120-57-0	EC number: 204-409-7	
Classification		
Skin Sens. 1B - H317		
UNDECA-1,4-LACTONE		**<1%**
CAS number: 104-67-6	EC number: 203-225-4	
Classification		
Aquatic Chronic 3 - H412		
BUTYLATED HYDROXYTOLUENE		**<1%**
CAS number: 128-37-0	EC number: 204-881-4	REACH registration number: 01-2119565113-46-XXXX
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification		
Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		
Ethyl methylphenylglycidate		**<1%**
CAS number: 77-83-8	EC number: 201-061-8	
Classification		
Skin Sens. 1B - H317 Aquatic Chronic 2 - H411		

The full text for all hazard statements is displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

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 Place unconscious person on their side in the recovery position and ensure breathing can take place. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.

Ingestion Rinse mouth thoroughly with water. Give plenty of water to drink. Keep affected person under observation. Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Do not induce vomiting.

Skin contact Immediately remove contaminated clothing. Rinse immediately with plenty of water. Remove contaminated clothing. Get medical attention if any discomfort continues.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

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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 This is unlikely to occur but symptoms similar to those of ingestion may develop. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death.

Ingestion May cause unconsciousness, blindness and possibly death.

Skin contact May cause irritation.

Eye contact Irritating and may cause redness and pain.

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

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with the following media: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

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

Specific hazards The product is flammable. Heating may generate flammable vapours. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapours.

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

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Keep combustible materials away from spillage. Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

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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

Usage precautions Keep away from heat, sparks and open flame. Avoid spilling. Do not eat, drink or smoke when using the product. Good personal hygiene procedures should be implemented. 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 and cool place. Store under well-ventilated conditions at a temperature below 25°C.

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

PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³
Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

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

SODIUM LAURYL ETHER SULPHATE

No exposure limit value known.

BENZALDEHYDE

No exposure limit value known.

PROPYLENE GLYCOL

Long-term exposure limit (8-hour TWA): WEL 474 mg/m3 150 ppm particulate vapour
Long-term exposure limit (8-hour TWA): WEL 10 mg/m3 particulate

ETHYL ACETATE

Long-term exposure limit (8-hour TWA): WEL 200 ppm
Short-term exposure limit (15-minute): WEL 400 ppm

SODIUM HYDROXIDE

Short-term exposure limit (15-minute): WEL 2 mg/m³

Heliotropine

No exposure limit value known.

UNDECA-1,4-LACTONE

No exposure limit value known.

BUTYLATED HYDROXYTOLUENE

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

Ethyl methylphenylglycidate

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No exposure limit value known.
WEL = Workplace Exposure Limit
Sk = Can be absorbed through skin.

Ingredient comments WEL = Workplace Exposure Limits

PROPAN-2-OL (CAS: 67-63-0)

DNEL
Industry - Inhalation; Long term systemic effects: 500 mg/m³
Consumer - Dermal; Long term systemic effects: 319 mg/kg/day
Consumer - Oral; Long term systemic effects: 26 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 89 mg/m³
Industry - Dermal; Long term systemic effects: 888 mg/kg/day

PNEC
- Fresh water; 140.9 mg/l
- Marine water; 140.9 mg/l
- Intermittent release; 140.9 mg/l
- Sediment (Freshwater); 552 mg/kg
- Sediment (Marinewater); 552 mg/kg
- STP; 2251 mg/l
- Soil; 28 mg/kg

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

SODIUM LAURYL ETHER SULPHATE (CAS: 9004-82-4)

DNEL No DNEL available.

PNEC No PNEC available.

BENZALDEHYDE (CAS: 100-52-7)

DNEL
Workers - Inhalation; Long term systemic effects, local effects: 9.8 mg/m³
Workers - Dermal; Long term systemic effects: 1.14 mg/kg bw/day
General population - Inhalation; Long term systemic effects, local effects: 4.9 mg/m³
General population - Dermal, Oral; Long term systemic effects: 0.67 mg/kg bw/day

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PNEC

- Fresh water; 0.0024 mg/l
- Marine water; 0.00024 mg/l
- Intermittent release; 0.0107 mg/l
- STP; 7.59 mg/l
- Sediment (Freshwater); 0.0221 mg/kg sediment dw
- Sediment (Marinewater); 0.00221 mg/kg sediment dw
- Soil; 0.00301

PROPYLENE GLYCOL (CAS: 57-55-6)

DNEL

Industry - Inhalation; Long term systemic effects: 168 mg/m³
Industry - Inhalation; Long term local effects: 10 mg/m³
Consumer - Inhalation; Long term systemic effects: 50 mg/m³
Consumer - Inhalation; Long term local effects: 10 mg/m³

PNEC

- Fresh water; 260 mg/l
- Marine water; 26 mg/l
- STP; 20000 mg/kg
- Sediment (Freshwater); 572 mg/kg
- Sediment (Marinewater); 57.2 mg/kg
- Soil; 50 mg/kg
- Intermittent release; 183 mg/l

ETHYL ACETATE (CAS: 141-78-6)

DNEL

Workers - Inhalation; Long term systemic effects: 734 mg/m³
Workers - Inhalation; Short term Acute: 1468 mg/m³
Workers - Inhalation; Long term local effects: 734 mg/m³
Workers - Inhalation; Short term Acute: 1468 mg/m³
Workers - Dermal; Long term systemic effects: 63 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 367 mg/m³
General population - Inhalation; Short term Acute: 734 mg/m³
General population - Inhalation; Long term local effects: 367 mg/m³
General population - Inhalation; Short term Acute: 734 mg/m³
General population - Dermal; Long term systemic effects: 37 mg/kg bw/day
General population - Oral; Long term systemic effects: 4.5 mg/kg bw/day

PNEC

- Fresh water; 0.24 mg/l
- Marine water; 0.024 mg/l
- Intermittent release; 1.65 mg/l
- Sediment (Freshwater); 1.15 mg/kg sediment dw
- Sediment (Marinewater); 0.115 mg/kg sediment dw
- Soil; 0.148 mg/kg soil dw

d-LIMONENE (CAS: 5989-27-5)

DNEL

Workers - Inhalation; Long term systemic effects: 33.3 mg/m³
Workers - Dermal; Short term local effects, Acute: 0.222 mg/cm²
General population - Inhalation; Long term systemic effects: 8.33 mg/m³
General population - Dermal; Short term local effects, Acute: 0.111 mg/cm²
General population - Oral; Long term systemic effects: 4.76 mg/kg bw/day

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PNEC

- Fresh water; 0.0054 mg/l
- Marine water; 0.00054 mg/l
- STP; 1.8 mg/l
- Sediment (Freshwater); 1.32 mg/kg sediment dw
- Marine water; 0.13 mg/kg sediment dw
- Soil; 0.262 mg/kg soil dw

SODIUM HYDROXIDE (CAS: 1310-73-2)

DNEL

Consumer - Inhalation; local effects: 1 mg/m³
Industry - Inhalation; Long term local effects: 1 mg/m³

Heliotropine (CAS: 120-57-0)

DNEL

Workers - Inhalation; Long term systemic effects: 3.5 mg/m³
Workers - Dermal; Long term systemic effects: 0.5 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 0.87 mg/m³
General population - Dermal, Oral; Long term systemic effects: 0.25 mg/kg bw/day

PNEC

- Fresh water; 0.0025 mg/l
- Marine water; 0.00025 mg/l
- Intermittent release; 0.025 mg/l
- STP; 10 mg/l
- Soil; 0.00084 mg/kg soil dw
- Sediment (Freshwater); 0.0119 mg/kg sediment dw
- Sediment (Marinewater); 0.0012 mg/kg sediment dw

CITRAL (CAS: 5392-40-5)

DNEL

Workers - Inhalation; Long term systemic effects: 9 mg/m³
Workers - Dermal; Long term systemic effects: 1.7 mg/kg bw/day
Workers - Dermal; Long term local effects: 0.14 mg/cm²
General population - Inhalation; Long term systemic effects: 2.7 mg/m³
General population - Dermal; Long term systemic effects: 1 mg/kg bw/day
General population - Dermal; Long term local effects: 0.14 mg/cm²
General population - Oral; Long term systemic effects: 0.6 mg/kg bw/day

PNEC

- Fresh water; 0.00678 mg/l
- Marine water; 0.000678 mg/l
- Intermittent release; 0.0678 mg/l
- STP; 1.6 mg/l
- Sediment (Freshwater); 0.125 mg/kg sediment dw
- Sediment (Marinewater); 0.0125 mg/kg sediment dw
- Soil; 0.0209 mg/kg soil dw

UNDECA-1,4-LACTONE (CAS: 104-67-6)

DNEL

Workers - Inhalation; Long term systemic effects: 19 mg/m³
Workers - Dermal; Long term systemic effects: 5.38 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 4.68 mg/m³
General population - Dermal, Oral; Long term systemic effects: 2.7 mg/kg bw/day

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PNEC

- Fresh water; 0.00585 mg/l
- Marine water; 0.000585 mg/l
- Intermittent release; 0.0585 mg/l
- STP; 80 mg/l
- Sediment (Freshwater); 0.628 mg/kg sediment dw
- Sediment (Marinewater); 0.063 mg/kg sediment dw
- Soil; 0.122 mg/kg soil dw

BUTYLATED HYDROXYTOLUENE (CAS: 128-37-0)

DNEL

Workers - Inhalation; Long term systemic effects: 3.5 mg/m³
Workers - Dermal; Long term systemic effects: 0.5 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 0.86 mg/m³
General population - Dermal, Oral; Long term systemic effects: 0.25 mg/kg bw/day

PNEC

- Fresh water; 0.000199 mg/l
- Marine water; 0.0000199 mg/l
- Intermittent release; 0.00199 mg/l
- STP; 0.17 mg/l
- Sediment (Freshwater); 0.996 mg/l
- Sediment (Marinewater); 0.00996 mg/l
- Soil; 0.04769 mg/l

Ethyl methylphenylglycidate (CAS: 77-83-8)

DNEL

Workers - Inhalation; Long term systemic effects: 2.45 mg/m³
Workers - Dermal; Long term systemic effects: 0.7 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 0.61 mg/m³
General population - Dermal, Oral; Long term systemic effects: 0.35 mg/kg bw/day

PNEC

- Fresh water; 0.0084 mg/l
- Marine water; 0.0084 mg/l
- Intermittent release; 0.084 mg/l
- STP; 10 mg/l
- Sediment (Freshwater); 0.214 mg/kg sediment dw
- Sediment (Marinewater); 0.0214 mg/kg sediment dw
- Soil; 0.0378 mg/kg soil dw

MYRCENE (CAS: 123-35-3)

DNEL

Workers - Inhalation; Long term systemic effects: 5.83 mg/m³
Workers - Dermal; Long term systemic effects: 0.83 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 1.25 mg/m³
General population - Dermal; Long term systemic effects: 0.42 mg/kg bw/day
General population - Oral; Long term systemic effects: 0.42 mg/kg bw/day

PNEC

- Fresh water; 0.008 mg/l
- Marine water; 0.0008 mg/l
- STP; 0.2 mg/l
- Sediment (Freshwater); 5.022 mg/kg sediment dw
- Sediment (Marinewater); 0.502 mg/kg sediment dw
- Soil; 1.015 mg/kg soil dw

BENZYL VIOLET 4B (CAS: 1694-09-3)

DNEL

No DNEL available.

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PNEC No PNEC available.

3,7-DIMETHYL-1,6-OCTADIEN-3-OL (CAS: 78-70-6)

DNEL
Workers - Inhalation; Long term systemic effects: 2.8 mg/m³
Workers - Inhalation; Short term Acute: 16.5 mg/m³
Workers - Dermal; Long term systemic effects: 2.5 mg/kg bw/day
Workers - Dermal; Short term Acute: 5 mg/kg bw/day
Workers - Dermal; Long term local effects: 15 mg/cm²
Workers - Dermal; Short term Acute: 15 mg/cm²
General population - Inhalation; Long term systemic effects: 0.7 mg/m³
General population - Inhalation; Short term Acute: 4.1 mg/m³
General population - Dermal; Long term systemic effects: 1.25 mg/kg bw/day
General population - Dermal; Short term Acute: 2.5 mg/kg bw/day
General population - Dermal; Long term local effects: 15 mg/cm²
General population - Dermal; Short term Acute: 15 mg/cm²
General population - Oral; Long term systemic effects: 0.2 mg/kg bw/day
General population - Oral; Short term Acute: 1.2 mg/kg bw/day

PNEC
- Fresh water; 0.2 mg/l
- Marine water; 0.02 mg/l
- Intermittent release; 2 mg/l
- STP; 10 mg/l
- Sediment (Freshwater); 2.22 mg/kg sediment dw
- Sediment (Marinewater); 0.222 mg/kg sediment dw
- Soil; 0.327 mg/kg soil dw

CITRONELLOL (CAS: 106-22-9)

DNEL
Workers - Inhalation; Long term systemic effects: 161.6 mg/m³
Workers - Inhalation; Long term local effects: 10 mg/m³
Workers - Inhalation; Short term Acute: 10 mg/m³
Workers - Dermal; Long term systemic effects: 327.4 mg/kg bw/day
General population - Inhalation; Long term systemic effects: 47.8 mg/m³
General population - Inhalation; Long term local effects: 10 mg/m³
General population - Inhalation; Short term Acute: 10 mg/m³
General population - Dermal; Long term systemic effects: 196.4 mg/kg bw/day
General population - Dermal; Short term local effects, Acute: 2.950 mg/cm²
Workers - Dermal; Short term Acute, local effects: 2.950 mg/cm²
General population - Oral; Long term systemic effects: 13.8 mg/kg bw/day

PNEC
- Fresh water; 0.0024 mg/l
- Marine water; 0.00024 mg/l
- Intermittent release; 0.024 mg/l
- STP; 580 mg/l
- Sediment (Freshwater); 0.0256 mg/kg sediment dw
- Sediment (Marinewater); 0.00256 mg/kg sediment dw
- Soil; 0.00371 mg/kg soil dw

GERANIOL (CAS: 106-24-1)

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DNEL	Workers - Inhalation; Long term systemic effects: 161.6 mg/m³ Workers - Dermal; Long term systemic effects: 12.5 mg/kg bw/day Workers - Dermal; Long term local effects: 11.8 mg/cm² General population - Inhalation; Long term systemic effects: 47.8 mg/m³ General population - Dermal; Long term systemic effects: 7.5 mg/kg bw/day General population - Dermal; Long term local effects: 11.8 mg/cm² General population - Oral; Long term systemic effects: 13.75 mg/kg bw/day
PNEC	- Fresh water; 0.0108 mg/l - Marine water; 0.00108 mg/l - Intermittent release; 0.108 mg/l - STP; 0.7 mg/l - Sediment (Freshwater); 0.115 mg/kg - Sediment (Marinewater); 0.0115 mg/kg - Soil; 0.0167 mg/kg

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	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.
Hand protection	No specific hand protection recommended. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.
Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level.
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	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	Blue.
Odour	Mild. Perfume.
pH	pH (concentrated solution): 8.0 to 10.5
Melting point	Below minus 5°C
Flash point	49°C Closed cup.
Relative density	0.980 @ 20°C

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Solubility(ies)	Completely soluble in water.
Viscosity	1.3 cSt @ 20°C

9.2. Other information

Refractive index	1.344
Volatile organic compound	This product contains a maximum VOC content of 80.0 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	No particular stability concerns.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Avoid contact with the following materials: Acids. Oxidising agents.

10.5. Incompatible materials

Materials to avoid	Strong acids. Strong oxidising agents.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects	Materials used in this product have been shown to be of very low toxicity, but best practice dictates that prolonged exposure should be avoided.
Other health effects	There is no evidence that the product can cause cancer.

Acute toxicity - oral

ATE oral (mg/kg)	47,133.33

Acute toxicity - dermal

ATE dermal (mg/kg)	66,666.67

Acute toxicity - inhalation

ATE inhalation (vapours mg/l)	666.67

Skin corrosion/irritation

Animal data	Repeated or prolonged contact may cause irritation, since the material may remove the natural greases in skin, resulting in dryness, cracking and possibly dermatitis. Based on available data the classification criteria are not met.

Serious eye damage/irritation

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

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General information	To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing.
Ingestion	No harmful effects expected from quantities likely to be ingested by accident.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	May cause temporary eye irritation.
Acute and chronic health hazards	Not expected to be a health hazard when used under normal conditions.
Route of exposure	Inhalation Skin absorption Ingestion. Skin and/or eye contact
Target organs	Central nervous system Eyes Gastro-intestinal tract Kidneys Liver Respiratory system, lungs Blood
Medical symptoms	Irritation of eyes and mucous membranes. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Visual disturbances, including blurred vision.

Toxicological information on ingredients.

PROPAN-2-OL

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,840.0
Species	Rat Rat
Notes (oral LD_{50})	
ATE oral (mg/kg)	5,840.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	16.4
Species	Rabbit Rabbit
ATE dermal (mg/kg)	12,874.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	25.5
Species	Rat
ATE inhalation (vapours mg/l)	25.5

Skin corrosion/irritation

Animal data	Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Rabbit eyes: Severe eye irritation.

Respiratory sensitisation

QUANTUM GLASS CLEANER

Respiratory sensitisation	Not available.
Skin sensitisation	
Skin sensitisation	Not considered to be a skin sensitizer
Germ cell mutagenicity	
Genotoxicity - in vitro	Negative.
Genotoxicity - in vivo	Negative.
Reproductive toxicity	
Reproductive toxicity - fertility	Does not interfere with fertility.
Reproductive toxicity - development	No evidence of reproductive toxicity in animal studies.
Specific target organ toxicity - single exposure	
STOT - single exposure	Inhalation: May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	Oral and inhalation repeated exposure studies demonstrated target organ effects in male rats (kidney) and male/female mice (thyroid) by mechanisms of action that are not relevant to humans. Based on available data the classification criteria are not met.
Aspiration hazard	
Aspiration hazard	Aspiration hazard if swallowed. The fluid can enter the lungs and cause damage (chemical pneumonitis, possibly fatal).
Inhalation	Drowsiness, dizziness, disorientation, vertigo.
Ingestion	No specific health hazards known.
Skin contact	No specific health hazards known.
Eye contact	Irritating to eyes. Splashes in eyes may cause strong pain. Vapour acts as irritant.
Acute and chronic health hazards	Small amounts of liquid aspirated into the respiritory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema.

2-BUTOXYETHANOL

Acute toxicity - oral	
Acute toxicity oral (LD_{50} 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)	11.0

QUANTUM GLASS CLEANER

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.

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 exposure 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 systemand lead to headache, fatigue, nausea and vomiting.

SECTION 12: Ecological Information

Ecotoxicity The product is not expected to be hazardous to the environment. The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Ecological information on ingredients.

PROPAN-2-OL

Acute aquatic toxicity

QUANTUM GLASS CLEANER

Acute toxicity - fish	LC_{50}, 96 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC_{50}, 24 hours: 9714 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC_{50}, 72 hours: > 1000 mg/l, Scenedesmus subspicatus
Acute toxicity - microorganisms	EC_{50}, : > 1000 mg/l, Activated sludge

2-BUTOXYETHANOL

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 1464 mg/l, Oncorhynchus 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

Persistence and degradability 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.

Ecological information on ingredients.

PROPAN-2-OL

Persistence and degradability	The product is expected to be biodegradable.
Biodegradation	Water - Degradation (%) 95%: 21 days

2-BUTOXYETHANOL

Persistence and degradability	The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product shows little or no tendency to bioaccumulate, and poses no long term threat to wildlife.

Ecological information on ingredients.

PROPAN-2-OL

Bioaccumulative potential	The product is not bioaccumulating.
Partition coefficient	log Pow: 0.05

2-BUTOXYETHANOL

Partition coefficient	log Pow: < 2 : 0.8

12.4. Mobility in soil

QUANTUM GLASS CLEANER

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces. The product contains substances which are water-soluble and may spread in water systems.

Ecological information on ingredients.

PROPAN-2-OL

Mobility	The product is soluble in water.
Adsorption/desorption coefficient	Water - Koc: ~ 1.1 @ °C
Henry's law constant	0.00000338 atm m3/mol @ 25°C

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

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

PROPAN-2-OL

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled 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 Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1987
UN No. (IMDG)	1987
UN No. (ICAO)	1987
UN No. (ADN)	1987

14.2. UN proper shipping name

QUANTUM GLASS CLEANER

Proper shipping name (ADR/RID)	ALCOHOLS, N.O.S. (CONTAINS PROPAN-2-OL)
Proper shipping name (IMDG)	ALCOHOLS, N.O.S. (CONTAINS PROPAN-2-OL)
Proper shipping name (ICAO)	ALCOHOLS, N.O.S. (CONTAINS PROPAN-2-OL)
Proper shipping name (ADN)	ALCOHOLS, N.O.S. (CONTAINS PROPAN-2-OL)

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-D
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.

SECTION 15: Regulatory information

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

QUANTUM GLASS CLEANER

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	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

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	29/06/2018
Revision	3
Supersedes date	11/01/2016
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H290 May be corrosive to metals. H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.