# SAFETY DATA SHEET QUANTUM ANTI-FREEZE RED - LONG LIFE

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

1.1. Product identifier

Product name QUANTUM ANTI-FREEZE RED - LONG LIFE

Product number ZGBQAFRLL01L, ZGBQAFRLL005L, ZGBQAFRLL020L, ZGBQAFRLL205L

Internal identification B16911, 16655, 16660, 16663, 16670

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

Identified uses Antifreeze liquid.

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 Not Classified

Health hazards Acute Tox. 4 - H302 STOT RE 2 - H373

Environmental hazards Not Classified

#### 2.2. Label elements

#### Hazard pictograms





Signal word Warning

Hazard statements H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements P260 Do not breathe vapour/ spray.

P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P314 Get medical advice/ attention if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/ container in accordance with national regulations.

P102 Keep out of reach of children.

Contains ETHANEDIOL

#### 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

ETHANEDIOL 60-100%

CAS number: 107-21-1 EC number: 203-473-3 REACH registration number: 01-

2119456816-28-XXXX

Classification Acute Tox. 4 - H302 STOT RE 2 - H373

DISODIUM DECANEDIOATE 1-5%

CAS number: 17265-14-4 EC number: 241-300-3

Classification Not Classified

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 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 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. Remove affected person from source of contamination. Get medical attention

immediately.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if

irritation persists after washing. Wash contaminated clothing before reuse.

Eye contact Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes

and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an

ophthal mologist.

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

General information Aside from the information found under Description of first aid measures (above) and Indication of

immediate medical attention and special treatment needed (below), no additional symptoms and effects

are anticipated.

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

## SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant 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

Specific hazards Combustible Container may rupture from gas generation in a fire situation. Violent steam generation or

eruption may occur upon application of direct water stream to hot liquids.

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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.

5.3. Advice for firefighters

Protective actions during

firefighting

Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Fight advanced or massive fires from safe distance or protected location. Do not use water jet as an extinguisher, as this will spread the fire. Extinguishing waters may present a risk of damage to the environmental, collect and dispose of as hazardous waste, in accordance with local legislation.

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. No smoking, sparks, flames or other sources of ignition near spillage. Avoid inhalation of vapours and contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Avoid from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological

Information.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Contain spilled material if possible. Containers with collected spillage must be properly labelled with

correct contents and hazard symbol. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

6.4. Reference to other sections

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 Avoid spilling. Good personal hygiene procedures should be implemented. Wash hands and any other

contaminated areas of the body with soap and water before leaving the work site. 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. Keep away from food,

drink and animal feeding stuffs. Keep only in the original container.

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

**ETHANEDIOL** 

Long-term exposure limit (8-hour TWA): WEL 52 mg/m³ 20 ppm

Short-term exposure limit (15-minute): WEL 104 mg/m³ 40 ppm vapour

Sk

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

**DISODIUM DECANEDIOATE** 

No exposure limit value known.

WEL = Workplace Exposure Limit. Sk = Can be absorbed through skin.

Ingredient comments WEL = Workplace Exposure Limits

ETHANEDIOL (CAS: 107-21-1)

**DNEL** Industry - Dermal; Long term systemic effects: 106 mg/kg bw/day

Industry - Inhalation; Long term local effects: 35 mg/m<sup>3</sup>

Consumer - Dermal; Long term systemic effects: 53 mg/kg bw/day

Consumer - Inhalation; Long term local effects: 7 mg/m3

**PNEC** - Fresh water; 10 mg/l

- marine water; 1 mg/l

- Sediment (Freshwater); 37 mg/kg sediment dw

- Intermittent release; 10 mg/l

- Soil; 1.53 mg/kg - STP; 199.5 mg/l

- Sediment (Marinewater); 3.7 mg/kg sediment dw

- Soil; 1.53 mg/kg soil dw

DISODIUM DECANEDIOATE (CAS: 17265-14-4)

**DNEL** No DNEL available.

**PNFC** No PNEC available.

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.

Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and

Eye/face protection

Use safety glasses (with side shields), consistent with EN 166 or equivalent.

Hand protection

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 appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures

Good personal hygiene procedures should be implemented. 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.

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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 CE approved

air-purifying respirator with combination filter type A1P2 minimum.

Environmental exposure controls 
Do not allow material to contaminate ground water system.

#### SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Clear liquid.

Colour Reddish, Pink.

Odour Almost odourless. Characteristic.

pH (diluted solution): 8.0 to 8.6 @ 50% water solution

Initial boiling point and range >160°C @ 760 mm Hg

Flash point 117°C Closed cup.

Relative density 1.12 to 1.14 @ 20°C

9.2. Other information

#### SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Exposure to elevated temperatures can cause product to decompose. Generation of gas during

decomposition can cause pressure in closed systems.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Hazardous decomposition Decomposition products depend upon temperature, air supply and the presence of other materials.

products Decomposition products can include and are not limited to: Aldehydes. Ethers. Alcohols.

## SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects The product is not expected to be toxic to aquatic organisms.

Acute toxicity - oral

Notes (oral LD<sub>50</sub>) Harmful if swallowed.

ATE oral (mg/kg) 540.31

Specific target organ toxicity - repeated exposure

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

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General information To the best of our knowledge the chemical, physical and toxicological properties have not been

thoroughly investigated.

Inhalation Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient

temperature. Vapour may irritate respiratory system/lungs.

Ingestion Harmful: possible risk of irreversible effects if swallowed. Headache. Nausea, vomiting. There may be

soreness and redness of the mouth and throat.

Skin contact Prolonged and frequent contact may cause redness and irritation. Not a skin sensitiser.

Eye contact May cause eye irritation.

Acute and chronic health hazards May cause damage to kidneys and liver through prolonged or repeated exposure (oral).

Route of exposure Ingestion.

Medical symptoms Headache. Nausea, vomiting.

Toxicological information on ingredients.

**ETHANEDIOL** 

Acute toxicity - oral

Acute toxicity oral (LD₅o

mg/kg)

7,712.0

Species Rat

Notes (oral LD<sub>50</sub>) Acute oral toxicity is expected to be moderate in humans eventhough animals test results

would suggest a low toxicity. Ingestion of approximately 100ml has caused death in humans. Ingestion may cause nausea, vomiting, abdominal discomfort or diarrhea. Excessive exposure

 $\ may\ cause\ central\ nervous\ system\ effects,\ cardiopul monary\ effects\ and\ kidney\ failure.$ 

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅o

mg/kg)

3,501.0

Species Mouse

ATE dermal (mg/kg) 3,501.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅o

vapours mg/l)

2.6

Species Rat

Notes (inhalation LC50) At room temperature exposure to vapour is minimal due to low volatility. With good ventilation

single exposure is not expected to cause adverse effect. If the product is heated or the working area has poor ventilation, vapour/mist may accumulate and cause respiratory irritation

and symptoms such as headache and nausea.

Skin corrosion/irritation

Animal data Not irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. Rabbit

Respiratory sensitisation

Respiratory sensitisation Guinea pig: Not sensitising.

Skin sensitisation

Skin sensitisation - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

Genotoxicity - in vivo Negative

Carcinogenicity

Carcinogenicity The current toxicological kowledge allows to not classify the product as a carcinogen.

Reproductive toxicity

Reproductive toxicity - fertility Ingestion of large amounts has been shown to interfere with reproduction in animals.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Observations in humans include: Nystagmus (involuntary eye movement). In animals effects

have been reported on the following organs: kidneys and liver. NOAEL 150 mg/kg/day, Oral,

Rat

Target organs Kidneys

Inhalation At room temperature, exposure to vapor is minimal due to low volatility. With good ventilation,

single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms

such as headache and nausea.

Ingestion Oral toxicity is expected to be moderate in humans due to ethylene glycol even though tests

with animals show a lower degree of toxicity. Ingestion of quantities (approximately 65 mL (2 oz.) for diethylene glycol or 100 mL (3 oz.) for ethylene glycol) has caused death in humans. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. For Ethylene glycol: Lethal Dose, Human, adult 100 ml LD50, rat,

male and female 7,712 mg/kg.

Skin contact Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin

exposure to large quantities may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of

potentially lethal amounts.

Eye contact May cause temporary eye irritation.

Route of exposure Ingestion.

Target organs Kidneys Liver

**DISODIUM DECANEDIOATE** 

Acute toxicity - oral

Acute toxicity oral (LD₅o

5,001.0

mg/kg)

Species Rat

ATE oral (mg/kg) 5,001.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅o

2,001.0

mg/kg)

Species Rat

ATE dermal (mg/kg) 2,001.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Data lacking.

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro

Negative.

Genotoxicity - in vivo

Negative.

Carcinogenicity

Carcinogenicity Data lacking.

Reproductive toxicity

Reproductive toxicity - fertility Data lacking.

Specific target organ toxicity - single exposure

STOT - single exposure Data lacking.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Data lacking.

Aspiration hazard

Aspiration hazard No data available.

## 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

Toxicity The product is not expected to be toxic to aquatic organisms.

Ecological information on ingredients.

ETHANEDIOL

Toxicity Product not classified as dangerous to aquatic organisms.

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 72860 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic

invertebrates

EC₅o, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 6500 - 13000 mg/l, Selenastrum capricornutum

Acute toxicity - EC20, 30 minutes: > 1995 mg/l, Activated sludge

microorganisms

Chronic aquatic toxicity

Chronic toxicity - fish early life NOEC, 7 days: 15380 mg/l, Pimephales promelas (Fat-head Minnow)

stage

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Chronic toxicity - aquatic

invertebrates

NOEC, 7 days: 8590 mg/l, Ceriodaphnia Sp.

**DISODIUM DECANEDIOATE** 

Toxicity All toxicity values are related to Sebacic Acid.

Acute aquatic toxicity

Acute toxicity - fish LC<sub>80</sub>, 96 hours: >100 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic

invertebrates

EC<sub>50</sub>, 48 hours: >100 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 72 hours: 3 mg/l, Skeletonema Costatum.

Acute toxicity - microorganisms

EC20, 3 hours: >1000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The product is biodegradable but it must not be discharged into drains without permission from the

authorities. The product is degraded completely by photochemical oxidation.

Ecological information on ingredients.

**ETHANEDIOL** 

Persistence and degradability The product is biodegradable.

Biodegradation Water - Degradation (%) 90 - 100%: 10 days

Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches

> 70% biodegradation in OECD test(s) for inherent biodegradability).

DISODIUM DECANEDIOATE

Persistence and degradability No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Ecological information on ingredients.

**ETHANEDIOL** 

Bioaccumulative potential Not potentially bioaccumulative

Partition coefficient log Pow: -1.36

DISODIUM DECANEDIOATE

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility The product is soluble in water. Volatilization from natural bodies of water or moist soil is not expected to

be an important fate process.

Ecological information on ingredients.

ETHANEDIOL

Mobility The product is soluble in water. Volatilization from natural bodies of water or moist soil is not

expected to be an important fate process. Potential for mobility in soil is very high.

Adsorption/desorption

coefficient

Water - Koc: ~ 1 @ °C

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Henry's law constant ~ 8.05E-09 atm m3/mol @ 25°C

DISODIUM DECANEDIOATE

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB

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

assessment

Ecological information on ingredients.

**ETHANEDIOL** 

Results of PBT and vPvB

assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

DISODIUM DECANEDIOATE

Results of PBT and vPvB

assessment

No data available.

12.6. Other adverse effects

Other adverse effects Not applicable.

## SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information This product, when being disposed of in its unused and uncontaminated state should be treated as a

hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For

used, contaminated and residual materials additional evaluations may be required.

Disposal methods Residues and empty containers should be taken care of as hazardous waste according to local and

national provisions. Avoid the spillage or runoff entering drains, sewers or watercourses.

## SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA,

ADR/RID).

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

Not applicable.

the IBC Code

# 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 (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment

etc.) (EU Exit) Regulations 2019, SI 2019 No. 720 (as amended)

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019 No. 758 (as amended)

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.

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 30/09/2021

Revision 9

Supersedes date 06/11/2018
SDS status Approved.

Hazard statements in full H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

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.