

## 1. Identification of the substance and of the supplier

### 1.1 Product identifiers

Product name : DUCKHAMS SUPER COOLANT-GREEN

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

Identified uses : Coolant

### 1.3 Details of the supplier of the safety data sheet

Supplier : Duckhams Energy Co.,Ltd. (Head office)  
55 Building 33 Space Tower B Room 601 Soi Pradiphat 17, Pradiphat Road,  
Phyathai, Phyathai, Bangkok 10400

Hotline : (097) 926 3855

E-mail : Technical@duckhams.co.uk

## 2. Hazards Identification

### Classification of the substance or mixture

**DSD/DPD CLASSIFICATION:** Repro. Cat. 3; R63 | Xn; R22 |

### Label elements

Under the criteria of Directive 1999/45/EC (dangerous preparations)

### Symbols:

Xn Harmful  
R63 Possible risk of harm to the unborn child.  
R22 Harmful if swallowed.  
S2 Keep out of the reach of children.  
S36/37 Wear suitable protective clothing and gloves.  
S46 If swallowed, seek medical advice immediately and show this container or label.

**Other hazards** Not applicable.

## 3. Composition/Information on ingredients

### Mixtures

This material is a mixture.

COMPONENTS	EC NUMBER	SYMBOL / RISK PHRASES	AMOUNT
Ethylene glycol	203-473-3	Xn/R22	60 - 98 %weight
Sodium 2-ethylhexanoate	243-283-8	Xn/Repro. Cat. 3/R63	10 - 30 %weight
Imidazole	206-019-2	Xn/R22, C/R34, Repro. Cat.2/R61	0.1 - 1 %weight

The full text of all R-phrases is shown in Section 16.

## **4. First aid measures**

### **Description of first aid measures**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** If swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

### **Most important symptoms and effects, both acute and delayed**

#### **IMMEDIATE SYMPTOMS AND HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to be harmful.

**Ingestion:** May be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

**DELAYED OR OTHER SYMPTOMS AND HEALTH EFFECTS:** This material may cause harm to the unborn child based on animal data.

**Indication of any immediate medical attention and special treatment needed**  
Not applicable.

## **5. Fire fighting measures**

### **Extinguishing media**

Dry Chemical, CO<sub>2</sub>, AFFF Foam or alcohol resistant foam.

### **Special hazards arising from the substance or mixture**

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

### **Advice for firefighters**

This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

## **6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Eliminate all sources of ignition in vicinity of spilled material. Refer to Sections 5 and 8 for more information.

### **Environmental precautions**

Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

### **Methods and material for containment and cleaning up**

Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil and dispose of in a manner consistent with applicable requirements. Place other contaminated materials in disposable containers and dispose of in a manner consistent with applicable requirements. Report spills to local authorities as appropriate or required.

### **Reference to other sections**

See sections 8 and 13.

## **7. Handling and Storage**

### **Precautions for safe handling**

Do not taste or swallow. Do not breathe vapor or fumes. Keep out of the reach of children.

### **Conditions for safe storage, including any incompatibilities**

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

**Specific end use(s):** Superconcentrated product to be diluted with MEG

## **8. Exposure controls/personal protection**

### **GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

## Control parameters

### Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Ceiling	Notation
Ethylene glycol	EU-Indicative	52 mg/m <sup>3</sup>	104 mg/m <sup>3</sup>	-	Skin
Ethylene glycol	United Kingdom	52 mg/m <sup>3</sup>	104 mg/m <sup>3</sup>	-	Skin

### Exposure controls

#### ENGINEERING CONTROLS:

Use in a well-ventilated area.

#### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

**Respiratory Protection:** No respiratory protection is normally required. Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

#### ENVIRONMENTAL EXPOSURE CONTROLS:

See relevant Community environmental protection legislation or the Annex, as applicable.

## 9. Physical and Chemical properties

Form :	liquid
Color :	Green
Odour :	Product specific
pH value :	8.2-8.6
Density @20C :	1.0642

## 10. Stability and Reactivity

**Reactivity:** This material is not expected to react.

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Not applicable

**Incompatible materials to avoid:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous decomposition products:** Aldehydes (Elevated temperatures), Ketones (Elevated temperatures)

## **11. Toxicological Information**

### **Information on toxicological effects**

**Serious Eye Damage/Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Corrosion/Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components. No product toxicology data available.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

**Germ Cell Mutagenicity:** The hazard evaluation is based on data for components or a similar material.

**Carcinogenicity:** The hazard evaluation is based on data for components or a similar material.

**Reproductive Toxicity:** The hazard evaluation is based on data for components or a similar material.

**Specific Target Organ Toxicity - Single Exposure:** The hazard evaluation is based on data for components or a similar material.

**Specific Target Organ Toxicity - Repeated Exposure:** The hazard evaluation is based on data for components or a similar material.

### **ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

## **12. Ecological Information**

### **Toxicity**

This material is not expected to be harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

### **Persistence and degradability**

This material is expected to be readily biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

### **Bioaccumulative potential**

Bioconcentration Factor: No Data Available

Octanol/Water Partition Coefficient: No data available

### **Mobility in soil**

No data available.

### **Results of PBT and vPvB assessment**

This product is not, or does not contain, a substance that is a potential PBT or a vPvB.

### **Other adverse effects**

No other adverse effects identified.

## **13. Disposal considerations**

### **Waste treatment methods**

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations. In accordance with European Waste Catalogue (E.W.C.) the codification is the following: 16 01 14

## **14. Transport Information**

The description shown may not apply to all shipping situations. Consult appropriate Dangerous Goods Regulations for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

### **ADR/RID**

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

### **ICAO**

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

## IMO

NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT

**14.1 UN number:** Not applicable

**14.2 UN proper shipping name:** Not applicable

**14.3 Transport hazard class(es):** Not applicable

**14.4 Packing group:** Not applicable

**14.5 Environmental hazards:** Not applicable

**14.6 Special precautions for user:** Not applicable

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:** Not applicable

## **15. Regulatory Information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**REGULATORY LISTS SEARCHED:**

01=EU. Directive 76/769/EEC: Restrictions on the marketing and use of certain dangerous substances.

02=EU Directive 90/394/EEC: Carcinogens at work.

03=EU Directive 92/85/EEC: Pregnant or breastfeeding workers.

04=EU Directive 96/82/EC (Seveso II): Article 9.

05=EU Directive 96/82/EC (Seveso II): Articles 6 and 7.

06=EU Directive 98/24/EC: Chemical agents at work.

07=EU Directive 2004/37/EC: On the protection of workers.

08=EU Regulation EC No. 689/2008: Annex 1, Part 1.

09=EU Regulation EC No. 689/2008: Annex 1, Part 2.

10=EU Regulation EC No. 689/2008: Annex 1, Part 3.

11=EU Regulation EC No. 850/2004: Prohibiting and restricting persistent organic pollutants (POPs).

12=EU REACH, Annex XVII: Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixture & article.

13=EU REACH, Annex XIV: Candidate List of Substances of Very High Concern for Authorization (SVHC).

The following components of this material are found on the regulatory lists indicated.

Ethylene glycol 06

### **CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

### **15.2 Chemical safety assessment**

No chemical safety assessment.

## **16. Other Information**

### **Full text of R-phrases:**

R22; Harmful if swallowed.

R34; Causes burns.

R61; May cause harm to the unborn child.

R63; Possible risk of harm to the unborn child.

### **ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV	Threshold Limit Value
STEL	Short-term Exposure Limit
CVX	Chevron
NQ	Not Quantifiable
TWA	Time Weighted Average
PEL	Permissible Exposure Limit

**Date** 15 June 2021

**Prepared by:** Duckhams Energy Co.,Ltd.

*The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.*