1. Identification of the substance or mixture and of the supplier

1.1 GHS product identifier **DUCKHAMS ULTRA LONG LIFE COOLANT RTU-GREEN/PINK/BLUE**

1.2 Other means of identification

Product code 532008-4040-A, 532009-4040-A, 532014-4040-A

1.3 Recommendations and restrictions on the use of substances or mixtures

Recommended use Antifreeze / Coolant.

Recommended restrictions Uses other than the recommended use.

1.4 Supplier's details

Supplier Duckhams Energy Co.,Ltd
Yan Phaholyothin Road 6/69
Phyathai, Phyathai, Bangkok 10400

e-mail cs@duckhams.co.th

Product information www.duckhams.co.th

1.5 Emergency Telephone Number : +66 97 926 3855

2. Hazards identification

2.1 GHS classification of substance or mixture, and national or regional information

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 5
	Reproductive toxicity (the unborn child)	Category 1B
	Specific target organ toxicity following repeated exposure	Category 2 (kidney)
Environmental hazards	Not classified.	

2.2 GHS label elements

Hazard symbol(s)

Signal word Danger

Hazard statement(s) May be harmful if swallowed. May damage the unborn child. May cause damage to organs (kidney) through prolonged or repeated exposure.

Precautionary statement(s)

Prevention Keep out of reach of children. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapours. Wear protective gloves/protective clothing/eye protection/face protection.

Response If medical advice is needed, have product container or label at hand. IF SWALLOWED: Immediately call a POISON CENTRE/doctor. IF exposed or concerned: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in GHS classification None known.

Supplemental information None.

3. Composition/information on ingredients

3.2 Mixture

Chemical identity	Common name and synonym	CAS number and other unique identifiers	Concentration or concentration range
Ethylene glycol		107-21-1	34 - < 80

Chemical identity	Common name and synonym	CAS number and other unique identifiers	Concentration or concentration range
Sodium 2-ethylhexanoate		19766-89-3	0.1 - < 3
Methyl-1H-benzotriazole		29385-43-1	0.1 - < 1

Composition comments All concentrations are in percent by weight.

4. First-aid measures

4.1 Description of first-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms/effects, acute and delayed Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Edema. Prolonged exposure may cause chronic effects.

4.3 Indication of immediate medical considerations and important specific treatment that should be performed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

5.1 Prohibited extinguishing media and suitable extinguishing media

Suitable extinguishing media Alcohol resistant foam. Powder. Carbon dioxide (CO2).

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

5.2 Specific hazards arising from chemicals Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised.

5.3 Special protective equipment and precautions for fire-fighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

General fire hazards No unusual fire or explosion hazards noted.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapours. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2 Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and materials for containment and cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Absorb spillage with suitable absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

7.1 Precautions for safe handling, use and storage Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapours. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Thailand. OELs (DLPW Notification Re: Occupational Exposure Limits for Hazardous Chemicals)

Components	Type	Value
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

Biological limit values No biological exposure limits noted for the ingredient(s).

8.2 Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

8.3 Personal protective measures

Eye/face protection Chemical respirator with organic vapour cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Neoprene, butyl rubber, nitrile or Viton gloves are recommended. Full contact: Use gloves classified protection index 6 with breakthrough time of 480 minutes. Minimum glove thickness 0.38 mm.

Other Wash hands thoroughly after handling. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapour cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

9.1 Appearance

Physical state Liquid.

Form Clear liquid.

Colour Green fluorescent.

9.2 Odor Mild.

9.3 Odor threshold limit Not determined.

9.4 pH 8.3 - 8.8 (20 °C (68 °F))

9.5 Melting point/freezing point Not applicable. / ≤ -37 °C (≤ -34.6 °F)

9.6 Initial boiling point and boiling range 108.5 °C (227.3 °F)

9.7 Flash point Does not flash.

9.8 Evaporation rate Not determined.

9.9 Flammability (solid, gas) Not applicable.

9.10 Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not determined.

Explosive limit – upper (%) Not determined.

9.11 Vapor pressure Not determined.

9.12 Vapor density Not determined.

9.13 Relative density Not determined.

9.14 Solubility(ies)

Solubility (water)	Miscible.
9.15 Partition coefficient: n-octanol/water	Not applicable, product is a mixture.
9.16 Auto-ignition temperature	398 °C (748,4 °F) (Ethylene glycol)
9.17 Decomposition temperature	Not determined.
9.18 Viscosity	Not determined.

Other information

Density	1.0682 kg/l (20 °C) (Typical)
Kinematic viscosity	Not determined.

10. Stability and reactivity

10.1 Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2 Chemical stability	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4 Conditions to avoid	Contact with incompatible materials.
10.5 Incompatible materials	Strong acids. Strong oxidising agents. Nitrates. Peroxides. Chlorates.
10.6 Hazardous decomposition products	At elevated temperatures: Ketones. Aldehydes.

11. Toxicological information

11.1 Information on likely routes of exposure

Inhalation	In high concentrations, mists/vapours may irritate throat and respiratory system and cause coughing.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May be harmful if swallowed. Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, oedema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The single lethal dose for humans is about 100 ml. Inhalation of high levels of vapour or mists for prolonged periods of time may also result in toxic effects.
11.2 Symptoms related to physical, chemical and toxicological characteristics	Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Edema. Prolonged exposure may cause chronic effects.
11.3 Delayed and immediate effects, including chronic effects from short- and long-term exposure	Occupational exposure to the substance or mixture may cause adverse effects.

11.4 Numerical values of toxicity

Acute toxicity May be harmful if swallowed.

Product	Species	Test Results
Duckhams Ultra Long Life Coolant RTU – Green (CAS -)		
Acute		
Oral		
ATEmix		3166 mg/kg bw

Components	Species	Test Results
Ethylene glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Mouse	> 3500 mg/kg
Inhalation		
Aerosol		
LC50	Rat	> 2.5 mg/l, 6 Hours
Oral		
LD50	Cat	1600 mg/kg

Components	Species	Test Results
Methyl-1H-benzotriazole (CAS 29385-43-1)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	720 mg/kg
Sodium 2-ethylhexanoate (CAS 19766-89-3)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	2043 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitisation

Respiratory sensitisation Not a respiratory sensitiser.

Skin sensitisation This product is not expected to cause skin sensitisation.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

ACGIH Carcinogens

Ethylene glycol (CAS 107-21-1) A4 Not classifiable as a human carcinogen.

Reproductive toxicity May damage the unborn child.

Reproductivity

Methyl-1H-benzotriazole (CAS 29385-43-1) 30 mg/kg bw/day OECD 414
Result: LOAEL
Species: Rat

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs (kidney) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Further information No data available.

12. Ecological information

12.1 Ecological toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Ethylene glycol (CAS 107-21-1)			
Aquatic			
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 Hours
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	72860 mg/l, 96 hours
Methyl-1H-benzotriazole (CAS 29385-43-1)			
Aquatic			
Acute			
Algae	ECr50	Pseudokirchneriella subcapitata	75 mg/l, 72 hours
Crustacea	EC50	Daphnia galeata	8.58 mg/l, 48 hours
	LC50	Arcartia tonsa	55 mg/l, 48 hours
Fish	LC50	Danio rerio	180 mg/l, 72 hours
Chronic			
Crustacea	EC10	Daphnia galeata	0.4 mg/l, 21 days

12.2 Persistence and degradability Ethylene glycol: >90% / 10 days (OECD 301A) Readily biodegradable.

12.3 Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethylene glycol (CAS 107-21-1)	-1.36

12.4 Mobility in soil This product is miscible in water and may not disperse in soil.

12.5 Other adverse effects No data available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADR

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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

15. Regulatory information

Safety, health and environmental regulation/legislation specific for the substance or mixture

Hazardous substances in the work place (DLPW Notification Re: List of Hazardous Chemicals, Royal Gazette, Vol. 130 Part 185 Ngor, issued December 20, B.E.2556 (2013))

ETHANE DIOL (CAS 107-21-1)

Thailand. Explosive Substances & Precursors (Ministry of Defense Notification Re: Arms Subject to Imports License, B.E.2551 (2008)), as amended

Not regulated.

Thailand. Reportable Hazardous Substances (Notification of Ministry of Industry Re: Bases respecting report of quantity of hazardous materials under Department of Industrial Works, B.E. 2547 (2004))

Not regulated.

International regulations All components comply with the following chemical inventory requirements: AIIC (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States), TCSI (Taiwan), NZIoC (New Zealand).
For countries not listed above, further action by the importer is needed.

16. Other information, including date of preparation or last revision

Issue date	02-July-2024
Revision date	-
Version No.	01