USA – According to the OSHA Hazard Communications Standard (HCS) (HAZCOM 2012).

SECTION 1: IDENTIFICATION

Product name: Quality Coolants HEAVY DUTY EXTENDED LIFE Antifreeze Concentrate

Product description: ethylene glycol-based antifreeze.

Recommended use: antifreeze.

Uses advised against: use this product in a manner consistent with the recommended use.

Manufacturer or supplier identification

Quality Coolants
471 S Hwy 16
San Saba, TX 76877
Telephone number: 325-372-5786

Emergency telephone

Chemtrec (domestic):	1-800-424-9300 (24 hour)
Chemtrec (international):	1-703-527-3887 (24 hour)

SECTION 2: HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200): this material is hazardous.

Acute toxicity (oral): category 4

Specific target organ toxicity, repeated exposure (oral): category 2 (kidney)

Label elements

Hazard pictograms

Signal word: WARNING

Hazard statements

Harmful if swallowed.
May cause damage to organs (kidney) through prolonged or repeated exposure if swallowed.

Precautionary statements

Prevention: do not breathe dust/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product.

Response: IF SWALLOWED: call a POISON CENTER/doctor if you feel unwell. Rinse mouth. Get medical advice/attention if you feel unwell.

Storage: no precautionary phrases.

Disposal: dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified: inhalation of vapors or mists may cause irritation to the respiratory system. Slightly irritating to the skin. Slightly irritating to the eye. Vapors may be irritating to the eye.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance or mixture: this product is a mixture.

Component	CASRN	Concentration (WT%)
Ethylene glycol	107-21-1	> 95%
Performance additives & inhibitors	proprietary	< 3%

SECTION 4: FIRST AID MEASURES

General advice: not expected to be a health hazard when used under normal conditions. When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

If inhaled: no treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

In case of skin contact: remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact: flush eye with copious quantities of water. Remove contact lenses, if present and easy to do. Continue rinsing. If persistent irritation occurs, obtain medical attention.

If swallowed: do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Rinse mouth.

Most important symptoms and effects, both acute and delayed: kidney toxicity may be recognized by blood in the urine or increased or decreased urine flow. Other signs and symptoms can include nausea, vomiting, abdominal cramps, diarrhea, lumbar pain shortly after ingestion, and possibly narcosis and death. Not considered to be an inhalation hazard under normal conditions of use. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. No specific hazards under normal use conditions. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Ingestion may result in nausea, vomiting and/or diarrhea.

Indication of any immediate medical attention and special treatment needed: call a doctor or poison control center for guidance. Treat symptomatically. May cause significant renal, respiratory, and CNS toxicity. May cause significant acidosis. The preferred treatment is immediate transportation to a medical facility and use of appropriate treatment including possible administration of activated charcoal, gastric

lavage and or gastric aspiration. If none of the above are immediately available and a delay of more than one hour is anticipated before such medical attention can be obtained, induction of vomiting may be appropriate using IPECAC syrup (contraindicated if there are any signs of CNS depression). This should be considered on a case by case basis following specialist advice. Specific other treatments may include ethanol therapy, fomepizole, treatment of acidosis and hemodialysis. Seek specialist advice without delay.

SECTION 5: FIREFIGHTING MEASURES

Suitable extinguishing media: water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture: 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.

Unusual fire and explosion hazards: 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.

Advice for firefighters

Firefighting procedures: keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream; may spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters: wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting 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

Personal precautions, protective equipment and emergency procedures: 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.

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

Methods and materials for containment and cleaning up: contain spilled material if possible. Collect in suitable and properly labeled containers.

Small spills: absorb with materials such as cat litter, sand, sawdust, Zorb-all®, Hazorb®.

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

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: do not swallow. Avoid contact with eyes. Wash thoroughly after handling. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: do not store near food, foodstuffs, drugs or potable water supplies.

Shelf life: the shelf life given is for unopened containers stored under moderate temperature conditions.

Use within 24 months.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Component	Regulation	Type of Listing	Value
Ethylene glycol	ACGIH	STEL (aerosol only)	10 mg/m3
	ACGIH	TWA (vapor & aerosol)	25 ppm
	ACGIH	STEL (vapor & aerosol)	50 ppm

Engineering controls: use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. General ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Hand protection: use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Use gloves with insulation for thermal protection, when needed. Examples of preferred glove barrier materials include, natural rubber (latex), neoprene, nitrile/butadiene rubber (nitrile or NBR), polyethylene, ethyl vinyl alcohol laminate (EVAL), polyvinyl alcohol (PVA), polyvinyl chloride (PVC or vinyl). **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 protection: when prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots,

apron, or full-body suit will depend on the task. When handling hot material, protect skin from thermal burns as well as from skin absorption.

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 material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

Hygiene measures: selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential expo- sure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Take off contaminated clothing and wash before reuse. Shower after work using plenty of soap and water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color)	Multiple color options
Odor	slight
Odor threshold	not available
pH (50% solution)	9.8 – 10.7
Freezing point (50% solution)	-34.6°F (-37°C)
Boiling point	not available
Flash point	> 240
Evaporation rate (butyl acetate = 1)	not available
Flammability (solid, gas)	not flammable
Flammability (liquids)	not flammable
Lower explosion limit	not explosive
Upper explosion limit	not explosive
Vapor pressure	not available
Relative vapor density (air = 1)	not available
Relative density	1.12
Solubility	completely soluble in water
Partition coefficient n-octanol/water	not available

The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

Possibility of hazardous reactions: hazardous polymerization will not occur. The product is stable.

Conditions to avoid: heat, sparks, open flames and strong oxidizing conditions.

Incompatible materials: strong oxidizer, strong acids, permanganates, peroxides, dichromates, reactive sodium compounds, sulfur compounds, alkali metals, nitrates.

Hazardous decomposition products: carbon monoxide and carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity: 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.

LD50, rat, male and female, 7,712 mg/kg

Lethal dose, human, adult, 3 Ounces estimated.

Acute dermal toxicity: 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.

LD50, rabbit, > 10,600 mg/kg

LD50, mouse, male and female, > 3,500 mg/kg

Acute inhalation toxicity: 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.

LC50, rat, male and female, 6 hour, dust/mist, > 2.5 mg/l

Skin corrosion/irritation: brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness. Repeated contact may cause skin irritation with local redness.

Serious eye damage/eye irritation: may cause slight eye irritation. Corneal injury is unlikely. Vapor or mist may cause eye irritation.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization: no relevant data found.

Specific target organ systemic toxicity (single exposure): evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific target organ systemic toxicity (repeated exposure): observations in humans include nystagmus (involuntary eye movement). In animals, effects have been reported on the kidney and liver.

Carcinogenicity: ethylene glycol did not cause cancer in long-term animal studies.

Teratogenicity: based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation or skin contact, the primary routes of occupational exposure, had minimal effect on the fetus, in animal studies.

Reproductive toxicity: ingestion of large amounts of ethylene glycol has been shown to interfere with reproduction in animals.

Mutagenicity: in vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard: based on physical properties, not likely to be an aspiration hazard.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Acute toxicity to fish: material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). LC50, Pimephales promelas (fathead minnow), static test, 96 hour, 72,860 mg/l, other guidelines.

Acute toxicity to aquatic invertebrates: EC50, Daphnia magna (water flea), static test, 48 hour, > 100 mg/l, OECD Test Guideline 202 or equivalent.

Acute toxicity to algae/aquatic plants: ErC50, Pseudokirchneriella subcapitata (green algae), 96 hour, growth rate inhibition, 6,500 - 13,000 mg/l, other guidelines.

Toxicity to bacteria: EC50, activated sludge, 30 min, 225 mg/l, OECD 209 Test.

Persistence and degradability

Biodegradability: material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day window: pass

Biodegradation: 90 - 100 %

Exposure time: 10 days

Method: OECD Test Guideline 301A or equivalent

10-day window: not applicable

Biodegradation: 90%

Exposure time: 1 day

Method: OECD Test Guideline 302B or equivalent

Theoretical Oxygen Demand: 1.29 mg/mg

Bioaccumulative potential

Bioaccumulation: bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -1.36, measured.

Mobility in soil

Given its very low Henry's constant, 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 (Koc between 0 and 50).

Partition coefficient (Koc): 1, estimated.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: do not dump into any sewers, on the ground, or into any body of water. All disposal practices must be in compliance with all federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. We have no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product as shipped in its intended condition as described in section 3. For unused & uncontaminated product, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator or other thermal destruction device.

SECTION 14: TRANSPORTATION INFORMATION

US Department of Transportation (DOT)

Packages less than 5000 pounds ethylene glycol in any one inner package: not regulated.

Containers with more than 5000 pounds ethylene glycol

UN number	3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s., (ethylene glycol)
Hazard class	9
Packing group	III
Environmental hazards	
Special precautions for user	

International Maritime Dangerous Goods (IMDG): not regulated for transport. Consult IMO regulations before transporting ocean bulk.

International Air Transportation Associations (IATA): not regulated for transport.

SECTION 15: REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312:

Acute toxicity (any route of exposure)

Specific target organ toxicity (single or repeated exposure)

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313. This product contains the following substances

which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372:

ethylene glycol, CASRN, 107-21-1

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103. Calculated RQ exceeds reasonably attainable upper limit:

ethylene glycol, CASRN, 107-21-1, 5000 lbs RQ

Toxic Substances Control Act (TSCA). All components of this product are either on the TSCA Inventory, are exempt from TSCA Inventory Requirements under 40 CFR 720.30, or comply with the PMN Polymer Exemption 40 CFR 723.250.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act). WARNING: this product can expose you to chemicals including ethylene glycol (CASRN 107-21-1), which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

New Jersey's Worker and Community Right to Know Act: 107-21-1, ethylene glycol

Massachusetts' Right to Know Law: 107-21-1, ethylene glycol

Pennsylvania's Right to Know Act: 107-21-1, ethylene glycol

International Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

Country/Region	Inventory	Status Description
Australia	AICS	listed
Canada	DSL	listed
China	IECSC	listed
Japan	ISHL	listed
Korea	KECI	listed
New Zealand	NZIoC	listed
Philippines	PICCS	listed
United States of America	TSCA	listed
Taiwan	TCSI	listed

SECTION 16: OTHER INFORMATION

Version and date of revision: 202407, July 2024

Date of issue: July 2024

HMIS classification: Health 1* (chronic health hazard), Flammability 1, Physical Hazards 0

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)

NFPA classification: Health 1, Fire Hazard 1, Instability 0

NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

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Table of Abbreviations & Acronyms

%WT: percent by weight
ACGIH: American Conference of Governmental Industrial Hygienists
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS: Australian Inventory of Chemical Substances (AICS)
BCF: bioconcentration factor
BOD: biological oxygen demand (BOD)
CAS: Chemical Abstract Service
CASRN: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CFR: Code of Federal Regulations
cSt: centistoke
CWA: Clean Water Act
DOT: Department of Transportation
ECx: effect concentration associated with x% response (e.g. EC50)
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ENCS: Existing and New Chemical Substances Inventory (Japan)
EPA: Environmental Protection Agency
EPCRA: Emergency Planning and Community Right-to-Know Act
g/cm3: grams per cubic centimeter
GLP: good laboratory practice
HMIS: Hazardous Material Information System
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IDHL: immediately dangerous to health or life
IECSC: Inventory of Existing Chemical Substances in China
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
KECL: Korea Existing Chemicals List
kg/m3: kilograms per cubic meter
Koc: partition coefficient

kPa: kilopascal
LC50: 50% lethal concentration. Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals.
LD50: 50% lethal dose. Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals.
LL: Lethal Loading
mg/kg: milligrams per kilogram
mg/l: milligrams per liter
mg/m3: milligrams per cubic meter
mm2/s: millimeter squared per second
mPa-s: millipascal-second
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
NOAEL: no observed adverse effect level
NOEC: no observed effect concentration
NOEL: no observed effect level
NZIoC: New Zealand Inventory of Chemicals
OAT: organic acid technology
OECD: Organization for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: permissible exposure limits
PICCS: Philippine Inventory of Chemicals and Chemical Substances
PPG: pounds per gallon
Ppm: parts per million
RCRA: Resource Conservation and Recovery Act
RQ: reportable quantity
S*: skin notation
SARA: Superfund Amendments and Reauthorization Act
SDS: safety data sheet
STEL: short term exposure limits
STOT: specific target organ toxicity
TCLo: lowest concentration resulting in a toxic effect
TCSI: Taiwan Chemical Substance Inventory
TDG: Transportation of Dangerous Goods (Canada)
TLV: threshold limit values
TSCA: Toxic Substance Control Act
TWA: time weight average
UVCB: substance of unknown or variable composition, complex reaction products or biological material
VOC: volatile organic compound