Material Safety Data Sheet

SECTION 1: Identification

Chemical product name	TCL Long life coolant (Undiluted solution -50℃)
Name of manufacturer	TANIKAWA YUKA KOGYO Co., Ltd.
Address	YAKO 1-13-11, TSURUMI-KU, YOKOHAMA-SHI KANAGAWA JAPAN
Name of section	Technical Department
Phone number	81-45-581-6635
Fax number	81-45-573-4347
E-mail	info@tanikawayuka.jp
Emergency phone number	81-45-581-6635 (Japan time, Monday - Friday, 9:00 a.m. - 5:00 p.m.)
Recommended use	For liquid-cooled internal combustion diesel engines and gasoline engines. Used to prevent freezing and corrosion protection.
Revision Date	1.Nov.09
Version	First edition
MSDS number	No.30010

SECTION 2: Hazards identification

GHS classification

Serious eye damage/irritation	Category 2B
Respiratory or skin sensitization	Category 1
Reproductive toxicity	Category 1
Specific target organ toxicity(STOT) -single exposure	Category 1(Central nervous system,Kidney,Heart, Respiratory tract) Category 3(Respiratory tract irritation)
STOT-repeated exposure	Category 1(Central nervous system, Respiratory tract, Heart) Category 2(Liver, Blood system, Kidney)
Hazardous to the aquatic environment - acute hazard	Category 3

What is not mentioned outside the segment, not subject classification, or unclassifiable.

GHS label elements

Symbol

Signal Word Danger

Hazard statement

Severe eye irritation
May cause allergy or symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May damage fertility or the unborn child
Causes damage to organs(Central nervous system,Kidney,Heart,Respiratory tract)
May cause respiratory irritation; or May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure(Central nervous system, Respiratory tract,

Heart,Liver, Blood system, Kidney)
Harmful to aquatic life

Precaution

Safety measure

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe mist or vapor.
P261	Avoid breathing mist or vapours.
P264	Wash hands thoroughly after handling.
P270	When using this product, do not drink or smoke.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.

Emergency treatment

P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	IF SKIN IRRITATION OR RASH OCCURES: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
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.
P308+P313	IF EXPOSED OR CONCERNED: Get medical advice/attention.
P307+P311	IF EXPOSED: Call a POISON CENTER or doctor/physician.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.

Storage

P405	Store locked up.

SECTION 3: Composition/information on ingredients

Substance / Mixture

Mixture

General product description

TCL Long life coolant (Undiluted solution -40℃)

Ingredients and composition

Chemical name	CAS No.	Composition(wt%)
Ethylene glycol	107-21-1	55~60
Hydrated inorganic acid, organic acid salts	none	0~5
Benzoic acid salts	Privately held	0~5
Water	7732-18-5	35~40

Hazardous components

Ethylene glycol

Benzoic acid salts; Mixture of sodium benzoate and potassium benzoate

SECTION 4: First-aid measures

INHALATION:

If you feel bad for inhalation, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Back when the feel is to receive medical attention.
IF EXPERIENCING RESPIRATORY SYMPTOMS: Call a POISON CENTER or doctor/physician.
If you get symptoms of drowsiness and dizziness, move to fresh air and keep at rest in prone to breathing.
If there is vomiting and breathing if you head sideways.
If breathing is weak to perform artificial respiration and oxygen.
May be delayed effects of inhalation.
If you get the above symptoms, obtain medical attention immediately.

SKIN CONTACT:

Immediately rinse with water, wash thoroughly with soap and water solution was deposited.
Remove immediately all contaminated clothing. Rinse skin with water.
In case of rash and blisters, and chapped hands or skin irritation, obtain medical attention immediately.
Call a POISON CENTER or doctor if you feel unwell.
Wash contaminated clothing before reuse.

EYE CONTACT:

Wash eyes with clean water for at least 15 minutes. During washing, the eyelids open with fingers well, eyeball, wash water as well go over every corner of the eyelid.
If you are using contact lenses, unless you have secured and continue to remove washing.
IF EYE IRRITATION PERSISTS: Get medical advice.
If there is severe pain, obtain medical attention immediately.
When start is delayed or inadequate cleaning washing, there is likely to cause irreversible eye disorder.

INGESTION:

Rinse mouth.
Get medical attention immediately.
Do NOT induce vomiting.
If you have concerns such as child swallowed, obtain medical attention immediately.
Wash the mouth with water, we drink 1-2 glasses of water, seek medical treatment immediately.
If no victim is conscious, not give anything by mouth.

The most important diagnostic and symptoms:

Nothing special

Protection for a person who provides emergent measures:

Nothing special

Notes to Physician:

Nothing special

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Powder, liquid foam for water, carbon dioxide, sand, water mist

Specific hazards regarding with fire-fighting measure

Wed mist cooling purposes may be used, water for fire fighting should stick to.

Specific hazards arising from the chemical

The product is N in the molecule, P, irritating or toxic fumes in a fire because they contain (or gas) that release.
The combustion gases, in addition to carbon monoxide, because it contains toxic gases such as nitrogen oxide gases, fire fighting operation when, remember not to inhale the smoke.

Specific fire fighting methods

Firefighting is made from the wind as possible.

Other than those concerned in a safe place to retreat.
Containers can be moved around in case of fire, the move to a safe place immediately.
Prohibited from entering a place other than those related to the surrounding fire.
To prevent a temperature rise due to the surrounding facilities, such as radiant heat, with water spray to cool surrounding.
Due to discharge of fire-fighting, do not spill the appropriate measures to substances that affect the environment.

Special protective actions for fire-fighters

Firefighting in the appropriate protective equipment (gloves, glasses, mask) be worn.
Fire fighting was carried out from upwind to avoid inhalation of toxic gases. Wear respirator, depending on the situation.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

If indoors, provide adequate ventilation until the end of treatment.
When does the time leaky always wear rubber gloves, safety glasses, protective clothing should be worn like.
Leaked around the place, Entry into a non-official ban and rope etc.
When the work should wear proper protective equipment, such as skin contact or splash, dust, you do not inhale the gas.
Working from upwind, downwind evacuate people.
In case the ignition, to prepare for fire fighting equipment.
Note that the location for slippery spills.

Environmental precautions

Product is discharged into rivers spilled, take care not to cause damage to the environment.

Effluent collection, neutralization

If small amounts of adsorbent (sand, rags, etc. Sat sawdust) after removal of adsorbed, and the remaining cloth, rag wipe as well, to collect empty containers can be sealed.
If large amounts of fill to prevent runoff quotes, from the process leading to a safe place
After a small amount of residue to be absorbed as collected sand or sawdust.
Deposits and waste will be treated on the basis of relevant laws.

SECTION 7: Handling and storage

Handling

Technological countermeasure

Obtain special instructions before use.
Read the note on the use of the products listed may not be used for other purposes.
Do not handle until all safety precautions have been read and understood.
Since alkaline, avoid contact with acidic products.
Gases, mists, vapors, Do not breathe.
During treatment, the food, do not smoke.
Wash hands thoroughly after handling.
Take off contaminated clothing and wash before reuse.

Storage

Proper storage conditions

Read the product according to storage conditions, store it properly.
Store locked up.

SECTION 8: Exposure controls/personal protection

Measures for facilities :

If you encounter smoke or vapor or mist, local ventilation equipment installation.

If you are installing indoor use local exhaust ventilation.

Eye wash facility and installing a restroom. To clearly show its location.

Permissible Exposure Limit :

	ACGIH	
	Threshold Limit Value – TWA	Threshold Limit Value - STEL
Sodium benzoate (Dust of sand and stones, rocks, ores (minerals), metallic materials or carbon)	2.9/(0.22Q+1) mg/m³	no data

Personal protective equipment (PPE) :

Respiratory protection

Wear a protective mask. Dust mask if necessary, a gas mask, wear a gas mask for organic solvents, etc..

Skin protection

Protective clothing as required, to wear a protective apron, etc..

Eye/face protection

Safety glasses (normal glasses type), if necessary, type goggles should be worn as face protection.

SECTION 9: Physical and chemical properties

Appearance (Physical state and color)	:	Red or Green. Liquid at room temperature.
Odour	:	Faint sweet odor
pH	:	7.6 (10 vol% a.q. 23 ℃)
Melting point/freezing point	:	－50 ℃
Initial boiling point and boiling range	:	No data
Flash point	:	No
Auto-ignition temperature	:	No data
Flammability(solid, gas)	:	No
Upper/lower flammability or explosive limits	:	No
Vapour pressure	:	Not determined (7Pa, at 20℃, for reference ethylene glycol)
Vapour density	:	Not determined (2.1 for reference ethylene glycol)
Evaporation rate	:	No data
Relative density	:	1.092(g/cm^3、20/4℃)
Solubility(ies)	:	Miscible with water in any ratio
Partition coefficient: n-octanol/water	:	No data
Decomposition temperature	:	No data
Other	:	In particular no information

SECTION 10: Stability and reactivity

Stability

Chemical stability

Stable under normal condition and anticipated storage.

Possibility of hazardous reactions

No data

Conditions to avoid

No data

Incompatible materials

No data

Hazardous decomposition products

No data

SECTION 11: Toxicological information

Toxicological information as a whole product

To view the results obtained by performing a calculation based on a mixture Classification JIS Z7252: 2009.

Acute toxicity

Ethylene glycol	LD_{50} (Oral) Rat 5890mg/kg
Sodium benzoate	LD_{50} (Oral) Rat 4070mg/kg, 3140mg/kg(RTECS) Oral doses of 8- 10g may cause nausea and vomiting, though tolerance in human is 50 g/day.

Skin corrosion/irritation

Ethylene glycol	The impact of the mild to the skin.
Sodium benzoate	In the rabbit study "not irritating" has been evaluated.

Serious eye damage/irritation

Ethylene glycol	Rabbit 500mg Mild
Sodium benzoate	In the rabbit study "slightly irritating" has been evaluated.

Respiratory or skin sensitization

Benzoic acid salt (Na, K)	Respiratory failure, those with diseases such as chronic bronchitis and emphysema and airway disease, may suffer additional impairment due to inhalation of high concentrations of particles. This may cause hypersensitivity. Hypersensitivity people, where there is a risk of exposure should not be worked.

Germ cell mutagenicity

Ethylene glycol	Mutagenicity tests using microorganisms: Negative

Carcinogenicity

Ethylene glycol	Not classified

Reproductive toxicity

Ethylene glycol	Category 1B

STOT-single exposure

Ethylene glycol	Category 1(Central nervous system, Kidney) Category 3(Respiratory tract irritation)

STOT-repeated exposure

Ethylene glycol	Category 2(Liver, Blood system, Kidney)

Aspiration hazard

No data

More information about the hazards of crude material

No data

SECTION 12: Ecological information

Hazard information of the entire product

To view the results obtained by performing a calculation based on a mixture Classification JIS Z7252: 2009.

Hazard information of the individual components: those not listed, the classification is less than the cutoff value of GHS, no knowledge, no data or components

Hazardous to the aquatic environment - acute hazard

Ethylene glycol	LC_{50}(96H) Fishes(Rainbow trout) 17800mg/L
	EC_{50}(48H) Crustacean(Daphnia magna) 14828mg/L
	ErC_{50}(72or96H) Algae(Selenastrum) 7900mg/L
Sodium benzoate	LC_{50}(96H) Fishes(Fathead minnow) 484mg/L (SIDS)
	EC_{50}(96H) Crustacean(Daphnia magna) 100mg/L (SIDS)
	ErC_{50}(96H) Algae(Green algae) 430g/L (SIDS)

Hazardous to the aquatic environment – long-term hazard

Ethylene glycol	BOD degradation degree:90%

Hazardous to the ozone layer

No data

SECTION 13: Disposal considerations

Waste information

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing),transportation and disposal.

SECTION 14: Transport information

International regulation

UN classification : Not applicable

UN number : Not applicable

Specific safety measure and condition of transportation

Be sure that the container has no crack, and no leakage.

Ensure avoiding collapse of cargo.

All transportation such as land, maritime, and air should be in compliance with each regulation.

Avoid direct sunlight.

Water leakage must be avoided.

Lateral loading is prohibited.

Under hot temperature, don't put container onto hot ground surface or iron plate.

Handle the container careful, not to give a shock. Don't slam or overturn it.

In maritime transport, please follow the provisions of the Ship Safety Act.

Air transportation to comply with the provisions of the Aviation Law.

SECTION 15: Regulatory information

Please follow the laws of the countries that use the product.

SECTION 16: Other information

Guideline of Material Safety Data Sheet by Association of Japan Auto Chemical Industry.

Further information

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.