会社名　株式会社MonotaRO
所在地　兵庫県尼崎市西向島町231-2
GLP尼崎3階
担当者名　商品お問合せ窓口
電話番号　0120-443-509
Fax番号　0120-289-888
緊急連絡先　所在地と同じ

MATERIAL SAFETY DATA SHEET

FORMULA CROWN ANTIFREEZE (LLC, 35068126, 35068135)

WARNING! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN.

MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN,EYES, AND RESPIRATORY TRACT.

AFFECTS CENTRAL NERVOUS SYSTEM.

SECTION SUMMARY

SECTION 1 - IDENTIFICATION

PRODUCT : CROWN ANTIFREEZE

SYNONYMS : CROWN A-103

CHEMICAL FAMILY : Engine coolants of automobiles

FORMULA : Not applicable/Mixture

APPEARANCE: Red

CAS RN : Mixture - no single CAS number applicable

SECTION 2 - HAZARDS IDENTIFICATION

THE OTHER HAZARDS NON-INCLUDED ON STANDARD OF CLASSIFICATION OF HAZARDS

NFPA RATINGS / COMPONENTS	HEALTH	FLAMMABILITY	REACTIVITY
ETHYLENE GLYCOL	2	1	0
WATER	0	0	0
SODIUM BENZOATE	0	1	0
ACID RED 73	2	1	0

POTENTIAL HEALTH EFFECTS

- INHALATION

Vapor inhalation is generally not a problem unless heated or misted. Exposure to vapors over an extended time period has caused throat irritation and headache. May cause nausea, vomiting, dizziness and drowsiness. Pulmonary edema and central nervous system depression may also develop. When heated or misted, has produced rapid, involuntary eye movement and coma.

- INGESTION

Initial symptoms in massive dosage parallel alcohol intoxication, progressing to CNS depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse, and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow.
Lethal dose in humans: 100 ml (3-4 ounces).

- SKIN CONTACT

Minor skin irritation and penetration may occur.

- EXE CONTACT

Splashes may cause irritation, pain, eye damage.

- CHRONIC EXPOSURE

Repeated small exposures by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop. May damage the developing fetus.

SECTION 3 - COMPOSITION AND INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION

DESCRIPTIVE NAME : ETHYLENE GLYCOL

CAS NUMBER : 107-21-1

EC EINECS : 203-473-3

PERCENTAGE : over 90

PRODUCT COMPOSITION

DESCRIPTIVE NAME : WATER

CAS NUMBER : 7732-18-5

EC EINECS : -

PERCENTAGE : 3 ~ 8

PRODUCT COMPOSITION

DESCRIPTIVE NAME : SODIUM BENZOATE

CAS NUMBER : 532-32-1

EC EINECS : 208-534-8

PERCENTAGE : 0.5 ~ 2.0

PRODUCT COMPOSITION

DESCRIPTIVE NAME : ACID RED 73

CAS NUMBER : 5413-75-2

EC EINECS : -

PERCENTAGE : 0.001 ~ 0.005

SECTION 4 - FIRST AID MEASURES

- INHALATION

Move to fresh air. If not breathing, give artificial respiration.

If breathing is difficult, give oxygen. Call a physician.

- INGESTION

Induce vomiting immediately as directed by medical personnel.

Never give anything by mouth to an unconscious person. Get medical attention.

- SKIN CONTACT

Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes.

Get medical attention if irritation develops or persists.

- NOTE TO PHYSICIAN

Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruria, hematuria, calcium oxide, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

SECTION 5 - FIRE FIGHTING MEASURES

FIRE :

Flash point: 111℃ (232℉) CC

Autoignition temperature: 398℃ (748℉)

Flammable limits in air % by volume: lel: 3.2% uel: 15.3%

FIRE AND EXPLOSION HAZARDS :

Hazardous combustion products: Carbon monoxide (CO). Carbon dioxide (CO2).

FIRE EXTINGUISHING MEDIA :

Dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

SPECIAL INFORMATION :

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Toxic gases and vapors may be released if involved in a fire.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS :

Wear necessary protective equipment. See section 8.

ENVIRONMENTAL PRECAUTIONS :

Inform Authorities if large amounts are involved. The product is soluble in water.

CLEANING MEASURES :

Absorb in vermiculite, dry sand or earth and place into containers. Ventilate well. Dilute with copious amounts of water. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. For disposal methods see section 13.

SECTION 7 - HANDLING AND STORAGE

HANDLING :

Avoid spilling, skin and eye contact.

STORAGE :

Keep in cool, dry, ventilated storage and closed containers.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS :

ETHYLENE GLYCOL

Internal regulation : TWA : C50ppm,C125㎎/㎥

ACGIH Short-Term Exposure Limit (STEL): 100 mg/m3 Ceiling (aerosol only)

WATER

Internal regulation :-

ACGIH Short-Term Exposure Limit (STEL): -

SODIUM BENZOATE

Internal regulation :-

ACGIH Short-Term Exposure Limit (STEL): -

ACID RED 73

Internal regulation :-

ACGIH Short-Term Exposure Limit (STEL): -

EXPOSURE CONTROL :

Provide eyewash station. Provide sufficient ventilation during operations which cause vapour formation.

HYGIENIC WORK PRACTICES :

Wash at the end of each work shift and before eating, smoking and using the toilet.

RESPIRATORY PROTECTION :

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Occupational Exposure Level (OEL). Wear full face mask supplied with: Gas cartridge (organic substances).

EYE PROTECTION :

Use approved safety goggles or face shield.

HAND PROTECTION :

Use suitable protective gloves if risk of skin contact. Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC.

SKIN PROTECTION :

Wear appropriate clothing to prevent any possibility of skin contact.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE :	Physical Condition - Liquid, Color - Red
ODOR :	Softly Peculiar Smell
SOLUBILITY :	Miscible in water
pH :	7.0 ~ 8.0
MELTING POINT :	No data
FREEZING POINT :	50vol% concentration below -34℃
BOILING POINT :	More than 160℃
FLASH POINT :	Beyond 118℃(C.C.) / measurement method : Open system
VAPOUR PRESSURE :	0.05 mmHg(20℃)
DENSITY OF VAPOR :	(Air=1) 2.14
SPECIFIC GRAVITY :	1.130 ~ 1.140
VISCOSITY :	36.01cst (15℃), 18.09 cst(25℃)
MOLECULAR WEIGHT :	Not Applicable/Mixture
EVAPORATION RATE :	(BuAc=1) No information found.

SECTION 10 - STABILITY AND REACTIVITY

STABILITY :

Stable under ordinary conditions of use and storage.

HAZARDOUS DECOMPOSITION PRODUCTS :

Carbon dioxide and carbon monoxide may form when heated to decomposition.

May produce acrid smoke and irritating fumes when heated to decomposition.

HAZARDOUS POLYMERIZATION :

Will not occur.

INCOMPATIBILITIES :

Strong oxidizing agents. Reacts violently with chlorosulfonic acid, oleum, sulfuric acid, perchloric acid.

Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide;

causes ignition at 212F(100C) with ammonium dichromate, silver chlorate, sodium chloride and uranyl nitrate.

CONDITIONS TO AVOID :

Heat, flames, ignition sources, water (absorbs readily) and incompatibles.

SECTION 11 - TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA : No data, according to component data entry.

ETHYLENE GLYCOL

ORAL : LD50 4700mg/kg (rat)

LD50 1650mg/kg (cat)

LD50 5500mg/kg (dog)

LD50 6610mg/kg (Guineapig)

LD50 5500mg/kg (mouse)

SKIN : LD50 9530 μℓ/kg(rabbit)

INHALATION : No data

IRRITATION DATA : skin rabbit: 555mg(open), mild; eye rabbit: 500mg/24H, mild.

Investigated as a tumorigen, mutagen, reproductive effector.

WATER

ORAL : LD50 >90Mℓ/kg (rat)

SKIN : No data

INHALATION : No data

IRRITATION DATA : No data

SODIUM BENZOATE

ORAL : LD50 4070mg/kg (rat)

SKIN : No data

INHALATION : No data

IRRITATION DATA : skin a human: 10%/1H(open)

ACID RED 73

ORAL : No data

SKIN : No data

INHALATION : No data

IRRITATION DATA : Eye contact. Inhalation

SECTION 12 – ECOLOGICAL INFORMATION

ENVIRONMENTAL TOXICITY DATA : No data, according to component data entry.

ETHYLENE GLYCOL

FISHES : LC50 >10000000μg/ℓ (96hours)

INVERTEBRATE : LC50 >100000μg/ℓ (48hours)

SEA ALGAE : 112000μg/ℓ (48hours)

OTHER : LC50 326000μg/ℓ (48hours)

WATER

FISHES : No data

INVERTEBRATE : No data

SEA ALGAE : No data

OTHER : No data

SODIUM BENZOATE

FISHES : LC50 484000μg/ℓ (96hours)

INVERTEBRATE : LC50 >100000μg/ℓ (96hours)

SEA ALGAE : No data

OTHER : No data

ACID RED 73

FISHES : No data

INVERTEBRATE : No data

SEA ALGAE : No data

OTHER : No data

ENVIRONMENTAL FATE :

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material is not expected to significantly bioaccumulate. This material has a log octanol-water partition coefficient of less than 3.0.

When released into water, this material is not expected to evaporate significantly.

When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

SECTION 13 - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 - TRANSPORT INFORMATION

Not regulated.

SECTION 15 - REGULATORY INFORMATION

ETHYLENE GLYCOL

◎ KOREA REGULATIONS

INDUSTRIAL SAFETY A HAALTH MEASURE : Hazardous Substances

HARMFUL CHEMICAL SUBSTANCE CONTROL LAW : No data

THE FIRE SERVICES ACT : 4th oils of 4th class(as receptiveness liquid), 4000L

◎ U.S.A. REGULATIONS

CERCLA 103 REGULATIONS (40CFR302.4) : 5000 LBS RQ

SARA 302 REGULATIONS (40CFR355.30) : None allocated.

SARA 304 REGULATIONS (40CFR355.40) : None allocated.

SARA, SARA 311/312 REGULATIONS (40CFR370.21) :

- Acute : Yes - Chronic : Yes - Fire : No - Pressure : No - Reactivity : No

SARA 313 REGULATIONS (40CFR372.65) : Ethylene glycol

OSHA REGULATIONS (29CFR1910.119) : None allocated.

PIC meterials : None allocated.

POPs meterials : None allocated.

◎ EU CLASSIFICATION INFORMATION

Definited classification result : Xn (Harmful substance)

R-PHRASES : R22 (Harmful if swallowed.)

S-PHRASES: S 2 (Keep children's hands, do not close in)

WATER

◎ KOREA REGULATIONS

INDUSTRIAL SAFETY A HAALTH MEASURE : No data

HARMFUL CHEMICAL SUBSTANCE CONTROL LAW : No data

THE FIRE SERVICES ACT : No data

◎ U.S.A. REGULATIONS

CERCLA 103 REGULATIONS (40CFR302.4) : None allocated.

SARA 302 REGULATIONS (40CFR355.30) : None allocated.

SARA 304 REGULATIONS (40CFR355.40) : None allocated.

SARA, SARA 311/312 REGULATIONS (40CFR370.21) :

- Acute : No - Chronic : No - Fire : No - Pressure : No - Reactivity : No

SARA 313 REGULATIONS (40CFR372.65) : None allocated.

OSHA REGULATIONS (29CFR1910.119) : None allocated.

PIC meterials : None allocated.

POPs meterials : None allocated.

◎ EU CLASSIFICATION INFORMATION

Definited classification result : None allocated.

R-PHRASES : None allocated.

S-PHRASES: None allocated.

SODIUM BENZOATE

◎ KOREA REGULATIONS

INDUSTRIAL SAFETY A HAALTH MEASURE : No data

HARMFUL CHEMICAL SUBSTANCE CONTROL LAW : No data

THE FIRE SERVICES ACT : No data

◎ U.S.A. REGULATIONS

CERCLA 103 REGULATIONS (40CFR302.4) : None allocated.

SARA 302 REGULATIONS (40CFR355.30) : None allocated.

SARA 304 REGULATIONS (40CFR355.40) : None allocated.

SARA, SARA 311/312 REGULATIONS (40CFR370.21) :

- Acute : No - Chronic : No - Fire : No - Pressure : No - Reactivity : No

SARA 313 REGULATIONS (40CFR372.65) : None allocated.

OSHA REGULATIONS (29CFR1910.119) : None allocated.

PIC meterials : None allocated.

POPs meterials : None allocated.

◎ EU CLASSIFICATION INFORMATION

Definited classification result : None allocated.

R-PHRASES : None allocated.

S-PHRASES: None allocated.

ACID RED 73

◎ KOREA REGULATIONS

INDUSTRIAL SAFETY A HAALTH MEASURE : No data

HARMFUL CHEMICAL SUBSTANCE CONTROL LAW : No data

THE FIRE SERVICES ACT : No data

◎ U.S.A. REGULATIONS

CERCLA 103 REGULATIONS (40CFR302.4) : None allocated.

SARA 302 REGULATIONS (40CFR355.30) : None allocated.

SARA 304 REGULATIONS (40CFR355.40) : None allocated.

SARA, SARA 311/312 REGULATIONS (40CFR370.21) :

- Acute : No - Chronic : No - Fire : No - Pressure : No - Reactivity : No

SARA 313 REGULATIONS (40CFR372.65) : None allocated.

OSHA REGULATIONS (29CFR1910.119) : None allocated.

PIC meterials : None allocated.

POPs meterials : None allocated.

◎ EU CLASSIFICATION INFORMATION

Definited classification result : None allocated.

R-PHRASES : None allocated.

S-PHRASES: None allocated.

SECTION 16 - OTHER INFORMATION

LABEL HAZARD WARNING :

WARNING! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

LABEL PRECAUTIONS :

Do not breathe vapor or mist. Use only with adequate ventilation. Keep container closed.

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

LABEL FIRST AID :

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes.

Call a physician if irritation develops or persists. If swallowed, give water or milk to drink and induce vomiting.

Never give anything by mouth to an unconscious person. In all cases call a physician.