



MATERIAL SAFETY DATA SHEET MSDS

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

PRODUCT NAME : **404 N.ICE ANTIFREEZE /RED, BLUE**
RECOMMENDED USE : Antifreeze/Cooling Liquid
COMPANY NAME : 404 Kimya San. ve Tic. A.Ş.
Headquarters: Merkez Mahallesi Akçe Sokak Güzle İş Merkezi
No:3 Kat:1 Şile Yolu Shell Benzin İstasyonu Yanı
Çekmeköy/ İSTANBUL
Factory: Organize San. Böl. 102 Ada 7 Parsel
Selimiye Köyü OSMANELİ/ BİLECİK
Headquarters Tel: 0216 642 92 71 Fax: 0216 642 92 75
Factory Tel: 0228 470 00 14

PRODUCT IDENTIFIERS

LABEL INFORMATION:



SYMBOLS: Xn Harmful
Content:
Hazard Sign:
S (Safety) Mark:

Mono Ethylene Glycol
R-22 Harmful if swallowed
S-2 Keep out of reach of children
S-36/37 Wear protective clothing and suitable gloves
S-46 If swallowed, seek medical advice immediately and show this container or label

MARKING FOR SHIPPING: No risk requiring special marking

2. HAZARD IDENTIFICATION

- Harmful to human health : Damages central nervous system if swallowed accidentally
- Environmental effects : Do not dispose this product into the environment.
- Physical and Chemical : Excessive heating can release flammable gases and consequently they may transform into explosive gas mixture.
- Product Classification : Harmful : Xn Harmful if swallowed.

3. INFORMATION ABOUT THE COMPOSITION/INGREDIENTS

MIXTURE

Chemical structure : It is based on ethylene glycol

Chemical Name	EC No	REACH registration No:	CAS No	Quantity %	Classification (Dir. 67/548)	Classification (Reg. 1272/2008)
Monoethylenegly	203-473-	01-2119456816-2	107-21-1	60-98	Xn;R22	Acute Tox.4 (H302) STOT RE 2 (H373)
disodium tetraborate pentahydrate	215-540-	No data available	12179-04-3	1.May	Repr.Cat.2;R60-61	Repr. 1B (H360FD)

You can find description of risk phrases under Article 16.

4. FIRST AID

IN CASE OF SERIOUS HEALTH EFFECTS CALL A DOCTOR OR GET IMMEDIATE MEDICAL TREATMENT

- **Inhalation** : If inhalation of product is noticed (such as starting to vomit), victim should be urgently taken to health care provider. Victim should be taken to open air and relaxed in a warm environment.
- **Digestion** : Must be immediately taken to hospital.
Due to the risk of penetrating into the respiratory track, victim should not be induced for vomiting. No drink should be given.
In the event of skin contact and according to exposed amount i.e: abnormal behaviors, loss of consciousness, convulsion, stroke, damage to liver, kidneys might be caused.
- **Skin Contact** : Contaminated clothes should be removed. Contaminated area should be immediately and repeatedly washed with soap and water.
- **Eye contact** : Eyes -opened- should be washed with plenty of water for 15 minutes. If problem persists please seek medical advice.
- **Respiration** : If product is suspected to enter into lungs for any reason whatsoever (for example, because of vomiting), the victim should be immediately taken to emergency service of hospital.

5. FIRE FIGHTING MEASURES

Flash Point : See section 9.

Fire fighting

- **Appropriate method** : Foam, carbon dioxide, fire extinguishing powder.
- **Inappropriate method** : Pressured water. Causes expansion of fire (spread).

Special Hazard : Decomposition of ethylene glycol at 500-600°C should be avoided. Ethylene glycol vapor may form explosive when mixed with air.

Protective equipment for fire fighters
density.

: Respiratory mask must be worn due risk of exposure to vapor at high

Other

: All fire waste and water used in fire-fighting must be disposed according to local regulations.

6 . ACCIDENTAL RELEASE MEASURES

See also Section 8 and 13.

Personal protection: Suitable protective clothing, gloves, safety glasses and shoes should be worn. If it is necessary to contact with the material, wear liquid-protected clothes, which must be clean and must be replaced frequently. Once clothing is contaminated, it should be removed and dry cleaning should be performed. Ensure good ventilation. Avoid inhaling its vapors.

After leak/Spill: - On or in soil: The area of spillage gets slippery. Contaminated area gets slippery. By physical methods, prevent disposal of the product into brook, sewer or soil. Clear up spilled product by dispersing soil or a similar substance on it. Regarding large-scale leak or spill and in the event that an immediate and appropriate intervention cannot be made, then ask for help from local authorities.

In water:
local authorities.

If product is poured into sewage or brook, immediately notify

7. HANDLING AND STORAGE

Technical measures: User protection: Provide adequate ventilation to prevent exposure to vapors or fumes. Avoid contact with used or contaminated product. Keep away from flammable materials. Keep away from food and drinks.

Fire and explosion: Empty tankers may contain explosive gases and vapors. Protection: The cloth, paper and similar materials used in the collection of the product after spillage are flammable. These should not be gathered and they should be safely disposed after use.

Measures: Avoid static electricity on product, make contact with the ground. Adjust machine in a way that product is not spilled over hot parts or electrical parts. Prevent leakage to circuit working under pressure. The resulting liquid formed due to leakage into this circuit is spread by ejections and it is flammable. It gets into dangerous reactions with strong oxidizing agents.

STORAGE - Technical measures : Make the necessary arrangements and take all necessary measures to prevent leakage of product into water and soil.

-Storage conditions

Appropriate method: Keep away from food, drinks and where animals are fed. Store at room temperature. Keep away from water and humidity. Keep away from sources of ignition. Do not use aluminium containers for storage.

Substances that should be avoided: Do not store contaminated materials (fabric, paper etc...)

Incompatible products: Gets into dangerous reactions with strong oxidizing agents.

Product packaging Recommended: Use only materials suitable for ethylene glycol and water. If possible, keep in its original container. Otherwise, transfer all markings onto new container in accordance with its original container.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Technical measures: Use the product only in well-ventilated areas. Make sure the air is not under effect of dense vapor when working indoor or wear/use recommended equipment.



Personal protection equipment

Respiratory Protection: Use certified respiratory equipment if exposure limits exceeds occupational exposure limits in a ventilated area. If used in indoor, then use autonomous respiratory equipment. Gas cartridge (organic gases, filter A) Combined gas cartridge (organic gases and dust, filter A / P2) Filter protection time is limited.

Hand protection: Wear protective gloves. Before use, check if gloves are made of appropriate materials. Suitable glove materials (time=>8 hours): Polychloroprene - thickness 0.5 mm Nitrile rubber / -latex - thickness 0.35 mm Fluorocarbon rubber (Viton) - thickness 0.4 mm Butyl rubber - thickness 0.5 mm Polyvinyl chloride (PVC) - thickness 0.5 mm Natural rubber and latex ones are not suitable. All these information are prepared based on standard values measured at 22 °C and long-term exposure.

No experimental data is available for finished product. Permeability is determined by means of comparison with existing data, not by means of tests. Specifications of the gloves are determined based on usage conditions (multiple usage, load, temperature, resistance, exposure time, etc.) Lifetime for the same type of products by different manufacturers. Relevant information should be requested from manufacturer.

Eye protection: Goggles to protect against splashes.

Skin and body: Where necessary, mask for facial protection, clothing protective against ethylene glycol, safety shoes (if carried in barrels). Clock or other similar jewelry should not be worn due to skin irritation by means of product contaminating them.

Hygiene Measures: Prevent contact of used and contaminated product with skin. Immediately remove contaminated cloths off body. Wash urgently and repeatedly with soap and water in the event of skin contact. Avoid cleaning with abrasives, solvents and petroleum based materials. Avoid drying hands with contaminated fabrics. Do not carry contaminated fabrics in your pockets. Do not eat or drink when handling the product.

EXPOSURE LIMIT

Chemical Name	European Union
Monoethyleneglycol	TWA 20 ppm TWA 52 mg/m ³
107-21-1	STEL 40 ppm STEL 104 mg/m ³
	S

Chemical Name	Short-term, systemic effects	Short-term, local effects	Long-term, systemic effects	Long-term, local effects
Monoethyleneglycol			106 mg/kg bw/day	35 mg/m ³ /8h (inhalation)
107-21-1			(dermal)	

Chemical Name	Short-term, systemic effects	Short-term, local effects	Long-term, systemic effects	Long-term, local effects
Monoethyleneglycol			53 mg/kg bw/day	7 mg/m ³ /24h (inhalation)
107-21-1			(dermal)	

Chemical Name	water	sediment	soil	air	STP	Oral
Monoethyleneglycol	10 mg/l (fw) 1mg/l (mw)	20.9 mg/kg dw				
107-21-1	10 mg/l (or)	(mw)	1.53 mg/kg d	w	199.5 mg/l	

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance-Physical State: Liquid - Color: Blue - Odor: Characteristic Change Temperatures Flash Point: >1000C (ASTM D 93) Auto-ignition: Monoethylene Glycol> 3980 °C This temperature may be slightly reduced in the case of contact with catarrhal materials. This temperature is not guaranteed.

Density: Approximately 1105-1135 kg/m³ at 150 °C

Solubility- in Water: Soluble in all ratios.

In organic solvents: Completely soluble.

10. STABILITY AND REACTIVITY

Stability and Reactivity Stability: The product is stable under normal handling, storage and usage conditions, and under normal temperature.

Hazardous reactions: No hazardous reactions under normal conditions.

Conditions that should be avoided: Temperature (temperatures above flash point), spark, flare point, flame, static electricity. Strong acids and strong oxidizing agents should be avoided.

Materials to avoid: Acetaldehyde at 500-600 °C should be avoided. CO₂, CO₂, NO and harmful organic compounds which are released in small or large quantities as a result of incomplete combustion or thermal processes.

11. POISONING INFORMATION

Toxicological Information and Acute Toxic/Local Effects

Inhalation: This product evaporates at room temperature. In the event of inhalation, it may cause irritation at upper respiratory tract depending on concentration of vapor. High concentrations cause headache, dizziness, nausea, drowsiness, weakness and fainting.

Skin contact : SKIN TEST LD₅₀ (Rabbit) = 19530 mg/kg It is possible to penetrate into skin.

Ingestion: LD₅₀ (Rat) = 5840 mg / kg Ingestion is the most toxic effect. Acute poisoning is especially harmful to children. Ingestion is primarily causes digestive disorders (nausea, vomiting, abdominal pain), coordination between muscles, writhing, headache and dizziness, severe nervous prostration. These cause drowsiness and fatigue. High metabolic acidosis (oxalic acid) causes the pain of kidney tracts. These symptoms can cause death. The minimum known lethal dose for human is 100 ml ethylene glycol.

Eye contact : May cause burning sensation and conjunctivitis.

Acute Toxic Ingredient Information

Chemical Name	LD50 Oral	LD50 Skin	LC50 Inhalation
Monoethyleneglycol	-	-	-

Renewable product toxicological information

Chemical Name	European Union
disodium tetraborate pentahydrate 12179-04-3	Repr. 1B (H360FD)

12. ECOLOGICAL INFORMATION

Ecotoxicity : Acute toxicity. LC50 96 hours Rainbow Trout 18-46 g/l Acute toxicity. EC50 24 hours Daphnia magna 46-51 g/l EC50 Algae (*Selenastrum capricornutum*) 10 g/l

Toxic effects to the environment: There is very little hazardous formation identified regarding water. No information is available for used products.

Mobility

- In the air : Slowly fades away by evaporation.
- On or in soil : With its specified physical and chemical properties, the product may show mobility in soil.
- In water : It is miscible with water at any ratio.
- Persistence and degradability : The main component of the product is degradable in nature.

Toxicological information of product for water

Chemical Name	in algae	In Daphnia and aquatic invertebrates	in fishes	in microorganisms
Monoethyleneglycol 107-21-1	-	-	LC50 (24 h): >5000 mg/l (<i>Carassius auratus</i>)	

logPow ingredient information

Chemical Name	logPow
Monoethyleneglycol - 107-21-1	-1.2

13. DISPOSAL CONSIDERATIONS



- Waste disposal** safely. : Local regulations should be complied with in order to destroy the waste safely.
If needed, they should be destroyed with use of equipment approved by competent companies on waste collection and recycling.
- Disposal of packages** : Packages should be treated as waste.
- Classification of Wastes** : Classification of Wastes is made based on content of the wastes. Classification of Wastes will be possible through use of recommended methods. The user creating wastes is required to classify the waste correctly. Determining the specifications of wastes according to their classification should be done with competent companies responsible for disposal of wastes.

Industrial waste EU number: 16-01-14
Local liabilities: Hazardous Waste Control Regulation dated and numbered 27.08.1995 and 22387 respectively,

14. TRANSPORT INFORMATION

- International legislation** : **Out of Scope**
- Road (ADR)** : It is not a restricted material for road transport.
- Marine (IMO-IMDG)** : It is not a restricted material for marine transport.
- Air Freight (ICAO - IATA)** : It is not a restricted material for air freight transport.

15 . REGULATORY INFORMATION

- **Symbols** :
- **Symbols** : Xn  
- **Content** : Harmful
- **R (Risk) Phrases** : R-22 Harmful if swallowed.
- **S (Safety) Phrases** : S-2 Keep out of reach of children
S-36/37 suitable for Protection gloves and goggles should be worn.
S-46 If swallowed, seek medical advice immediately and show this container or label

16. OTHER INFORMATION

This material safety data sheet is created in accordance with the rules set out in the regulations to prepare the form.