

Material Safety Data Sheet

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PORTABLE GLASS ANTIFOG

Ingredient

Name	wt%	Formula	Cas No.
Ethyl alcohol	1-5	-	4292-10-8
Triethanolamine	<1	-	64-17-5
Surfactant	<1	-	Nondisclose
Water	>90	-	7732-18-5

Hazardous identification:

GHS classification:

Flammable liquid	Category 3
Serious eye damage / Eye Irritation	Category 2B
Germ Cell Mutagenicity	Category 1(1A and 1B)
Reproductive Toxicity	Category 1(1A and 1B)
Target Organ Systemic Toxicity - Single Exposure	Category 3
Target Organ Systemic Toxicity - Repeated Exposure	Category 1
Acute Aquatic Toxicity	
Chronic Aquatic Toxicity	

GHS label elements



Hazard and toxicity information:

Flammable liquid and vapor
 Strong eye irritant
 May cause genetic defects
 May damage fertility or the unborn child
 May bring irritation on respiratory organ, and cause drowsiness or dizziness
 Long-term or repeated exposure may cause involvement of organ

Precaution: [safety measure]

Do not use before reading and understanding all safety precautions
 Keep away from ignition source such as, sparkle, naked flame, high-temperature material.
 Tighten the seal of the package.
 Keep the container grounded.
 Take preventive measures against electrostatic discharge.
 Use explosion-proof electrical equipment, ventilating device, lighting device.
 Use non-sparkling industrial tools
 Avoid inhalation of mine dust, smoke, gas, mist, vapor, and spray.
 Use only outdoors, or well ventilated place
 Do not eat and drink, or smoke right before handling this product
 Wash well hands after handling this product
 Wear protective gloves and goggles
 If needed, use personal protective equipment.

[Emergency treatment]

In case of inhalation, remove the victim to fresh air area and keep him quiet.

If respiratory irritation persists, seek medical attention.

In case of ingestion, immediately flush out mouth. Do not induce vomiting.

In case of eye contact, immediately flush eyes with plenty of water for several minutes.

If eye irritation persists, seek medical attention.

If attached to skin (or hair), immediately put off all polluted clothes and flush out skin.

When raised the concern of exposure, seek medical attention.

Take appropriate fire extinction measure.

Recover the leakage.

[Storage]

Store in cool and well ventilated area.

Tighten well a seal of the container.

First aid measures:

In case of inhalation in large doses:

When feeling sick, remove the victim to fresh air area and keep him quiet. Seek medical attention.

When triggered vomiting by respiring, turn head aside.

When feeling drowsiness or dizziness, remove the victim to fresh air area and keep him quiet.

In case of respiratory failure, give rescue breathing or respirator.

May bring a lagged influence of inhalation.

Seek immediate medical attention if above symptoms appear.

In case attached to skin:

Immediately flush out with water and wash carefully polluted part using soap.

In case the cloth still sticks to skin after washing, do not induce removing.

Wash polluted cloth before putting on again.

If it reaches the eyes:

Immediately flush eyes with plenty of water for at least 15 min while holding eyelids open.

If eye irritation persists, seek medical attention.

In case irritation is serious, immediately have medical check.

In case of ingestion:

Immediately wash inside of mouth with plenty water.

Seek medical attention soon.

Do not induce vomiting.

Most important diagnostic and symptom:

Nothing special

Protection for a person who provides emergent measures:

Nothing special

Notes to Physician:

Nothing special

Fire fighting measures:

Extinguishing media:

Powder, carbon dioxide, foam, halogen compound, sand, misty water

Not recommended extinguish media:

Don't use water for fire extinction

Misty water can be used only for cooling, rod-shaped water must not be used for extinction.

Specific hazard and toxicity when fire:

Combustion gas contains toxic gas like carbon monoxide system, nitrogen oxide system gas and so on.

Be careful not to inhale the smoke when firefighting.

Procedures:

Extinguish the fire from the windward.

Remove outsiders to safe place.

In case of fire in the surrounding area, immediately remove containers to safe place.

In order to prevent the temperature elevation of equipment around fire by radiation heat, cool down it by water spray.

Protection for a person who extinguish fire:

Wear protective gloves, goggles and mask.

Extinguish the fire from the windward for avoiding inhalation of poisonous gas.

Measures against spill and leak:

Precaution for human body, Protection media, and Emergency measure:

In case of leakage indoors, provide adequate ventilation till the disposal is completed.

When coping the aftermath of leakage, wear protective gloves, goggles and mask without fail.

Keep outsiders away from leakage area.

In case of leakage, put on protective equipment and avoid attaching splash to skin, or inhalation of gas.

For ignition, prepare fire-extinguisher.

Leakage area is slippery, so be careful with it.

Precaution for human body

Take care so that this product doesn't pollute the environment by leakage flowing into rivers.

After recovery of the leakage, absorb residue by using sand or sawdust.

Wear suitable protective equipment. Spill should be collected into a container, which can be tightly closed. Avoid sparks, use plastic made tools when collecting spill.

Prevention of secondary hazards:

Immediately call for related agencies to prevent accidents and extension.

Immediately eliminate all ignition sources, and provide extinguishing media.

Use explosion-proof electrical equipment

Handling precaution:

Heed the label warnings, and use this product only for proper purpose.

Keep away from ignition source such as, sparkle, naked flame, high-temperature material.

Keep the container grounded.

Take preventive measures against electrostatic discharge.

Use explosion-proof electrical equipment, ventilating device, lighting device.

Avoid inhalation of mine dust, smoke, gas, mist, vapor, and spray.

Do not eat and drink, or smoke while handling this product.

Use only outdoors, or well ventilated place

Tighten well a seal of the container.

Exposure controls / personal protection:

Measures for facilities:

In case vapor, smoke or mist comes out, set up local ventilation equipment.

In case of indoor use, set up local ventilation equipment.

In poorly-ventilated area, or place where vapor comes out well, set up local ventilation equipment.

Permissible Exposure Limit:	ACGIH	
	Threshold Limit Value - TWA	Threshold Limit Value - STEL
Ethyl alcohol	1000ppm	-
Triethanolamine	5ppm	

Protection:

Put on protective mask. If needed, use antidust mask, chemical-cartridge mask or gas mask for organic solvent.

Wear protective glove. If needed, use solvent resistant glove, or vinyl glove.

If needed, put on protective cloth, or protective apron.

If needed, put on protective glasses.

Physical and chemical properties:

Physical form: Liquid	Density: 0.926 at 25°C
Color and odor: Transparent pale yellow	pH: 7.5 at 25°C
Boiling point: 82-100°C	
Vapor Pressure: -	

Information about dangers:

Flash point: 28°C	Reactivity: None
Ignition point: 422.8°C	Stability: Very stable
Explosion point: Lower 3.3%, Upper 19.0%	
Flammability: Yes	

Toxicological information:

Toxicological information as a whole product:

Acute toxicity:

Ethyl alcohol	: LD50 6.2-17.8g/kg by RAT (oral)
Triethanolamine	: LD50 4,200-11,300mg/kg by RAT (oral)
Triethanolamine	: LD50 2,000mg/kg by RABBIT (oral)
Ethyl alcohol	: LC50 20,661-66,181ppmV/4H by RAT (inhalation)

Skin corrosivity / irritation :	No data
Serious eye damage / eye irritation :	Strong eye irritation.
Respiratory or skin sensitization :	No data
Germ cell mutagenicity :	May cause genetic defects. (Category 1)
Carcinogenicity :	No data
Reproductive toxicity :	May bring damage on reproductive function or unborn baby
Specific target organ systemic toxicity - Single exposure :	May bring irritation on respiratory organ, and cause drowsiness or dizziness.
Specific target organ systemic toxicity - Repeated exposure :	Long-term or repeated exposure may cause involvement of organ(Category1).
Aspiration hazard :	No data

Ecological Information:

Toxicological information as a whole product:

Toxicity against aquatic environment (acute):

Ethyl alcohol	: LC50 > 100mg / L / 96H	(Killifish)
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Toxicity against aquatic environment (chronic):

No data

Disposal considerations:

Discharge, treatment, or disposal may be subject to national, state, or local laws.

Transport information:

International regulation :

UN classification : **3**
UN number : **1993**

Specific safety measure and condition of transportation:

"Keep Fire Away."

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.

Do not lay down.

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

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

Other information:

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

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.