

## Safety Data Sheet (SDS)

### 1. Product & Company Identification

Product Name	: OF1 Foam 310
Manufacturer	: Yamato Protec Corporation
Address	: 5-17-2 Shirokanedai, Minato-ku, Tokyo
Phone Number	: 0570-080100 (Navi Dial)
Department	: Technical Support
Suggested Use & Limitations on Use	: Fire Extinguishing Agent

### 2. Hazards Identification

#### GHS Classification

Items not listed below are “Not classified”, “Unclassifiable”

#### Health Hazards

Acute Toxicity (Oral)	: Category 5
Skin Corrosion/Irritation	: Category 2
Serious Eye Damage/Eye Irritation	: Category 1
Skin Sensitization	: Category 1
Reproductive Toxicity	: Category 1B
Specific Target Organ Toxicity, Single exposure	
Category 1 (Respiratory system, heart, kidney, central nerve system)	
Category 3 (Narcotic effects)	
Specific Target Organ Toxicity, Repeated exposure	
Category 1 (Respiratory system, heart, central nerve system)	

#### Environmental Hazards

Hazardous to the aquatic environment, acute hazard : Category 3

#### Representation or Symbol:



Alert Level : Danger

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#### Health hazard statements

May be harmful if swallowed  
Causes mild skin irritation  
Causes eye irritation  
May damage fertility or the unborn child  
May cause drowsiness or dizziness  
Causes damage to Respiratory system, heart, kidneys, central nerve system  
Causes damage to Respiratory system, heart, central nerve system through prolonged or repeated exposure.  
Harmful to aquatic life

#### Precautionary statement

##### Safety Precautions

Do not handle until all safety precautions have been read and understood.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.  
Avoid release to the environment.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wear respiratory protection.

#### First Aid Measures

##### IF SWALLOWED

Call a POISON CENTER/ doctor if you feel unwell.

##### IF ON SKIN

IF SKIN irritation occurs: Get medical advice/attention.

##### IF IN EYES

Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/ attention.

##### IF EXPOSED or CONCERNED

Get medical advice/attention.

##### IN INHALED

Remove person to fresh air and keep comfortable for breathing.

#### Storage

Avoid high humidity, keep the product within the operating temperature range, and if possible, under lock indoors.

#### Disposal

The contents and the container should be disposed of by waste disposal contractors licensed by the Governor.

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### 3. Composition/Information on Ingredients

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Single Component or Mixture : Mixture  
Chemical Name or Common Name : Fire extinguishing foam  
(Aqueous film-forming fire extinguishing foam)

Chemical Name or Common Name	CAS Number	Official Gazette Reference Code	Concentration or Concentration Range
Hydrocarbon surfactant	Available	Available	15 to 25%
Diethylene glycol monobutyl ether	112-34-5	(2)-422	15 to 25%
Ethylene glycol	107-21-1	(2)-230	10 to 20%
Adipic acid	124-04-9	(2)-858	1 to 5%
Triethanolamine	102-71-6	(2)-308	1 to 5%

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### 4. First Aid Measures

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#### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

#### IF ON SKIN

IF SKIN irritation occurs: Get medical advice/attention.

#### IF IN EYES

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/ attention.

#### IF SWALLOWED

Call a POISON CENTER/ doctor if you feel unwell.

#### If exposed

Get medical advice/attention.

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### 5. Fire Fighting Measures

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Fire Extinguishing Agent : Not applicable due to non-combustibility  
Fire Extinguishing Agent Not To Be Used : Not applicable  
Special Hazards : No data available  
Special Fire Fighting Procedures : Not applicable  
Protection of Fire Fighters : Not applicable

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## 6. Leakage Measures

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### Personal Precautions, Protective Equipment and Emergency Measures

Immediately isolate the appropriate distances in all directions as leakage area.

Prohibit unauthorized persons from entering the area.

The workers should wear suitable protective equipment (See “8. Exposure Prevention and Protection Measures”) and avoid eye or skin contact and inhalation.

Do not touch any damaged container or leaked material without wearing suitable protective clothing.

When a fire does not occur during leakage, wear hermetic and impermeable protective clothing.

Stay in the wind.

Leave depression.

Ventilate sealed places.

### Environmental Precautions

Be careful not to affect the environment by discharging into rivers and others.

Dispose of the collection as industrial waste.

### Prevention of Secondary hazards

Collect leaked material immediately.

Prohibit unauthorized persons from entering the area around the leaked place.

In the case of inflow into rivers or public waterways, report to the person in charge of pollution in the local government immediately.

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## 7. Handling and Storage Instructions

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### Handling

Technical Measures : Implement measures stated in “8. Exposure Prevention and Protection Measures” and wear suitable protective equipment such as protective glasses and gloves.

Local Exhaust and Whole Ventilation : Implement local exhaust and whole ventilation stated in “8. Exposure Prevention and Protection Measures.”

Safe Handling Instructions : Use only outdoors or in a well-ventilated area.  
Avoid contact, inhalation or swallowing.  
Wash hands thoroughly after handling.

### Storage

Storage Conditions : Avoid high humidity, keep the product within the operating temperature range, and if possible, under lock indoors.

Container and Packing Material : Product container or appropriate fire extinguishing equipment

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## 8. Exposure Prevention and Protection Measures

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Equipment Measures	: Perform exhaust ventilation to keep the atmospheric concentration within exposure limits. Install eye washer and safety shower in the workplace to store and handle this product.
Control Concentration	: Not specified.
Allowable Concentration	: Ethylene glycol STEL C 100mg/m <sup>3</sup> , Upper limit (ACGIH) Diethylene glycol monobutyl ether Time weighted average 7ppm (Proposed value) (Inhalational mist and vapor)
Equipment Measures	: Local exhaust, eye washer, safety shower
Protective Equipment	
Respiratory Protective Equipment	: Wear suitable respiratory protective equipment.
Hand Protection	: Wear suitable protective gloves.
Eye Protection	: Wear suitable protective glasses.
Skin and Body Protection	: Wear suitable protective clothing and masks.

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## 9. Physical and Chemical Properties

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Physical State	: liquid
Color	: Pale yellow transparent
Odor	: Unique odor
Melting Point/Freezing Point	: No data available
Boiling Point, initial boiling point and Boiling Range	: No data available
Flammability	: Not applicable
Lower and upper explosion limit/ flammability limit	: No data available
Flash Point	: No data available
Autoignition Temperature	: No data available
Decomposition Temperature	: No data available
pH	: 7.8 (20 °C)
Kinematic viscosity (Viscosity)	: 7.7 cSt (20 °C)
Solubility	: Easily soluble in water
Partition coefficient n-octanol/ water (log value)	: No data available
Vapor Pressure	: No data available
Density and/ or relative density (specific gravity)	: 1.05 (20 °C)
Relative vapour density	: No data available
Particle characteristics	: Not applicable

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## 10. Stability and Reactivity

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Reactivity	: No data available
Chemical stability	: Stable under normal handling conditions
Hazardous Reactivity	: No hazardous reactivity under normal handling conditions
Conditions to Avoid	: No data available
Incompatible Hazardous Materials	: No data available
Hazardous Decomposition Products	: No data available

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### 13. Disposal Considerations

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#### Residual Waste

Disposal should be in accordance with applicable laws and local regulations. The substance should be disposed of by waste disposal contractors licensed by the Governor or by local public entities if appropriate. Waste disposal contractor, if used, should be well informed of potential hazards and toxicity from the waste.

#### Contaminated Containers and Packages

Containers should be properly disposed of in accordance with applicable laws and local regulations. If containers are disposed of, their contents should be completely removed.

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### 14. Transport Considerations

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United Nations Number	: Not applicable
Product Name	: Not applicable
United Nations Classification	: Not applicable
Container Class	: Not applicable
Marine Pollution Materials	: Not applicable
National Regulations:	
Land Regulatory Information	Follow the provisions of the Fire Service Act
Aeronautical Regulatory Information	Follow the provisions of the Civil Aeronautics Act
Maritime Regulatory Information	Follow the provisions of the Ship Safety Act

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## 15. Applicable Laws

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### Industrial Safety and Health Act

Dangerous or Harmful Substances Subject to be Indicated their Names, etc.

(Ordinance Appended Table 2, Order Article 18, Article 57-1 of the Act)

Ethylene glycol

Diethylene glycol monobutyl ether

Adipic acid

Triethanolamine

Dangerous or Harmful Substances Whose Names, etc. Should be Notified

(Ordinance Appended Table 2, Order Article 18-2, Article 57-1 of the Act)

Ethylene glycol

Diethylene glycol monobutyl ether

Adipic acid

Triethanolamine

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Law)

Not applicable

Poisonous and Deleterious Substances Control Act

Not applicable

Act on the Regulation of Manufacture and Evaluation of Chemical Substances

Not applicable

Fire Service Act

Not applicable as hazardous material

Civil Aeronautics Act

Not applicable

Ship Safety Act

Not applicable

Water Pollution Control Act

Not applicable

Sea Pollution Prevention Act

Not applicable

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## 16. Other Information

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This product should be used with the understanding that the use of any chemicals involves unknown potential hazards and toxicity. Hazards and toxicity depend on the environment of use and the storage conditions and period. We suggest that those with knowledge and experience be involved in all stages from use through storage and disposal.

The instructions provided in this document should apply when the product is handled normally. If the product is handled in a special way, proper safety precautions should be taken. Also, it should be used under the responsibility of the user.

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