

## Safety Data Sheet (SDS)

### 1. Product & Company Identification

Product Name

Mighty Foam 3310 (Type Approval Number: Foam No. 9 - 4)

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 3  
Serious Eye Damage/Eye Irritation : Category 2B  
Reproductive Toxicity : Category 1B

Specific Target Organ/Systemic Toxicity (Single exposure):

Category 1 (Respiratory system, heart, kidney, central nerve system)

Specific Target Organ/Systemic 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
- Causes damage to Respiratory system, heart, kidney, 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.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wear respiratory protection.
- Avoid release to the environment.

#### 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.

#### 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  
(Protein foam fire extinguishing agent)

| Chemical Name<br>or Common Name | CAS Number   | Official Gazette<br>Reference Code | Concentration or<br>Concentration Range |
|---------------------------------|--------------|------------------------------------|-----------------------------------------|
| Keratin hydrolysate             | Trade secret | Trade secret                       | Trade secret                            |
| Ethylene glycol                 | 107-21-1     | 2-230                              | 5 to 10%                                |
| Fluorochemical surfactant       | Trade secret | Trade secret                       | < 3%                                    |

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### 4. First Aid Measures

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#### IF INHALED

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 SWALLOWED

Call a POISON CENTER/ doctor if you feel unwell.

If exposed or concerned

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.

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.

### Collection, neutralization, containment, and cleanup procedures and equipment

Sweep scattered matter together into a sealable container and dispose of it according to “13. Disposal Considerations”. Then, wash off with plenty of water. In this case, be careful so that thick waste fluid does not flow into rivers and others.

### 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.<br>Avoid contact, inhalation or swallowing.<br>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<br>STEL C 100mg/m <sup>3</sup> , Upper limit (ACGIH)                                                                                                              |
| Equipment Measure                | : Local exhaust, eye washer, safety shower                                                                                                                                          |
| Protective Equipment             |                                                                                                                                                                                     |
| Respiratory Protective Equipment | : Wear a gas mask.                                                                                                                                                                  |
| Hand Protection                  | : Use impervious protective gloves.                                                                                                                                                 |
| Eye Protection                   | : Wear protective glasses..                                                                                                                                                         |
| Skin and Body Protection         | : Wear protective clothing and masks.                                                                                                                                               |

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## 9. Physical and Chemical Properties

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|                                                        |                           |
|--------------------------------------------------------|---------------------------|
| Physical State                                         | : liquid                  |
| Color                                                  | : Brown-black             |
| 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    | : Not applicable          |
| Flash Point                                            | : No data available       |
| Autoignition Temperature                               | : No data available       |
| Decomposition Temperature                              | : No data available       |
| pH                                                     | : 6.7 (20 °C)             |
| Kinematic viscosity (Viscosity)                        | : 42 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)    | : 1.17 (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 | : HF (hydrogen fluoride), F2 (fluorine gas) and fluorocarbons can be generated. |

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## 11. Toxicological Information

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|                                                     |                                                                        |
|-----------------------------------------------------|------------------------------------------------------------------------|
| Acute Toxicity                                      |                                                                        |
| Oral                                                | : Category 5                                                           |
| Dermal                                              | : Not classified                                                       |
| Inhalation :Gass                                    | : Unclassifiable                                                       |
| :Vapours                                            | : Unclassifiable                                                       |
| :Dust and Mist                                      | : Unclassifiable                                                       |
| Skin Corrosion/Irritation                           | : Category 3                                                           |
| Serious Eye Damage/Eye Irritation                   | : Category 2B                                                          |
| Respiratory or Skin Sensitization                   | : Unclassifiable                                                       |
| Germ-Cell Mutagenicity                              | : Unclassifiable                                                       |
| Carcinogenicity                                     | : Unclassifiable                                                       |
| Reproductive Toxicity                               | : Category 1B                                                          |
| Specific Target Organ Toxicity (Single exposure):   | : Category 1 (Respiratory system, heart, kidney, central nerve system) |
| Specific Target Organ Toxicity (Repeated exposure): | : Category 1 (Respiratory system, heart, central nerve system)         |
| Aspiration Hazard                                   | : Not classified                                                       |

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## 12. Environmental Impact Information

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|                                                         |                                  |
|---------------------------------------------------------|----------------------------------|
| Ecotoxicity                                             |                                  |
| Hazardous to the aquatic environment – Acute hazard     | : Category 3                     |
| Hazardous to the aquatic environment – Long term hazard | : Not classified                 |
| Persistence and Decomposability                         | : No data available              |
| Bioaccumulation                                         | : No data available              |
| Migration in Soil                                       | : No data available              |
| Hazardous to the ozonelayer                             | : Unclassifiable                 |
| Others                                                  |                                  |
| Other Environmental Toxicity:                           |                                  |
| BOD: 6.8 x 10 <sup>3</sup> mg/L (3% water solution)     | Measurement method JIS K 0102 21 |
| COD: 9.1 x 10 <sup>3</sup> mg/L (3% water solution)     | Measurement method JIS K 0102 21 |

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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.

(Appended Table 9, Order Article 18 (1) & (2), Article 57-1 of the Act)

Ethylene glycol

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

(Appended Table 9, Order Article 18-2 (1) & (2), Article 57-2 of the Act)

Ethylene glycol (Cabinet Order No. 75): 5-10%

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

### 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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