Safety Data Sheet (SDS)

1. Product & Company Identification

Product Name

Yamato Air Foam 320 (Type Approval Number: Foam No. 59 - 1)

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 Corrosivity/Irritation	: Category 3
Serious Eye Damage 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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Hazard hazaed ststements

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

Safety Precautions

Do not handle until all safety precautions have been read and understood.

Wear respiratory protection.

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.

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

Single Component or Mixture : Mixture
Chemical Name or Common Name : Fire extinguishing foam
(Protein foam fire extinguishing agent)

Chemical Name or Common Name	CAS Number	Official Gazette Reference Code	Concentration or Concentration Range
Keratin hydrolysate	Trade secret	Trade secret	Trade secret
Ethylene glycol	107-21-1	2-230	10 to 20%

4. First Aid Measures

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.

5. Fire Fighting Measures

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

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

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

8. Exposure Prevention and Protection Measures

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^3, Upper limit (ACGIH)
Equipment Measures	: 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

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	: 7.0 (20 °C)
Kinematic viscosity (Viscosity)	: 23 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)	: 1.15 (20 °C)
Relative vapour density	: No data available
Particle characteristics	: Not applicable

10. Stability and Reactivity

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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11. Toxicological Information

Acute Toxicity	
Oral	: Category 5
Demal	: 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

12. Environmental Impact Information

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

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13. Disposal Considerations

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.

14. Transport Considerations

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

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): 10-20%

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

16. Other Information

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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