



Safety Data Sheet (SDS)

1. Product & Company Identification

Product Name

Chemical Foam A Agent

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 “Unclassifiable” or “Not eligible for classification”

Health Hazards

Acute Toxicity (Oral)

: Category 5

Skin Corrosion/Irritation

: Category 3

Serious Eye Damage/Eye Irritation

: Category 2B

Environmental Hazards

: Unclassifiable

Representation or Symbol

: Unclassifiable

Alert Level

: Warning

Health hazard statements

May be harmful if swallowed

Causes mild skin irritation

Causes eye irritation

Precautionary statement

Safety Precautions

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

Wash hands thoroughly after handling.

This SDS has been prepared based on the latest information available. However, we cannot guarantee the accuracy of the information and data contained herein, such as descriptions of hazards and toxicity. The latest rules, ordinances, laws and regulations of the national and local governments and organizations should be looked into and should apply.



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.

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.

3. Composition/Information on Ingredients

Single Component or Mixture : Mixture
Chemical Name or Common Name : ABC dry chemical (chemical foam)

Chemical Name or Common Name	CAS Number	JCSCL Number	Concentration or Concentration Range
Sodiumu hydrogen carbonate	144-55-8	(1)-164	90 % and over
Chemical foam stailization agent	Trade secret	Trade secret	Trade secret

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4. 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.

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

The workers should wear suitable protective equipment (See “8. Exposure Prevention and Protection Measures”).

For indoor use, provide adequate ventilation until treatment is complete.

Prohibit unauthorized persons from entering the leaked place by stretching a rope, etc.

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

Stay in the wind.

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.

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.

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, if required.

Precautions for Safety Handling : None in particular

Hygiene Measures : Wash hands thoroughly after handling.

Storage

Storage : 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, etc.

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8. Exposure Prevention and Protection Measures

Control Concentration

Not specified.

Allowable Concentration

Not specified.

Equipment Measures

Install exhaust equipment in the dust work place.

Protective Equipment

Respiratory Protective Equipment : Wear suitable respiratory protective equipment.

Hand Protection : Wear suitable protective gloves.

Eye Protection : Use suitable eye protection.

9. Physical and Chemical Properties

Physical State, Form, Color : Slightly yellow powder

Odor : Peculiar odor

pH : 8.0 (8% water solution)

Melting Point, Freezing Point : No data available

Flash Point : No data available

Specific Gravity : No data available

Explosion Limits : No data available

Solubility : Almost soluble in water.

Autoignition Temperature : No data available

Decomposition Temperature : No data available

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10. Stability and Reactivity

Stability	: Reacts with acidic substances and generates carbon dioxide gas. Carbon dioxide gas is generated by heating
Reactivity	: No data available
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

11. Toxicological Information

Acute Toxicity	: Category 5
Skin Corrosivity/Irritation	: Category 3
Serious Eye Damage/Eye Irritation	: Category 2B
Respiratory or Skin Sensitization	: No data available
Germ-Cell Mutagenicity	: No data available
Carcinogenicity	: No data available
Reproductive Toxicity	: No data available
Specific Target Organ Toxicity (Single exposure)	: Not classified
Specific Target Organ Toxicity (Repeated exposure)	: No data available
Aspiration Hazard	: No data available

12. Environmental Impact Information

Hazardous to the aquatic environment – Acute hazard	: Not classified
Hazardous to the aquatic environment – Long term hazard	: Not classified
Ecotoxicity	: No data available
Persistence and Decomposability	: No data available
Bioaccumulation	: No data available
Migration in Soil	: No data available

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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	: No data available
Special Safety Measures	: 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

This SDS has been prepared based on the latest information available. However, we cannot guarantee the accuracy of the information and data contained herein, such as descriptions of hazards and toxicity. The latest rules, ordinances, laws and regulations of the national and local governments and organizations should be looked into and should apply.

15. Applicable Laws

Industrial Safety and Health Act

Not applicable

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 dangerous goods

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.

Safety Data Sheet (SDS)

1. Product & Company Identification

Product Name

Chemical Foam B Agent

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” or “Not eligible for classification”

Health Hazards

Serious Eye Damage/Eye Irritation : Category 2A

Environmental Hazards

Hazardous to the aquatic environment – Acute hazard : Category 3

Hazardous to the aquatic environment – Long term hazard : Category 3

Representation or Symbol:



Alert Level

: Warning

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Hazard/Toxicity Information

- Causes serious eye irritation
- Harmful to aquatic life
- Harmful to aquatic life with long lasting effects

Precautionary statement

Safety Precautions

- Do not handle until all safety precautions have been read and understood.
- Wear protective gloves/protective clothing/eye protection/face protection.
- 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 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.

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.

3. Composition/Information on Ingredients

Single Component or Mixture : Single component
Chemical Name or Common Name : Fire-Extinguishing Chemical Agent (Chemical foam B agent)

Chemical Name or Common Name	CAS Number	Official Gazette Reference Code	Concentration or Concentration Range
Aluminum sulfate	10043-01-3	(1)-25	99% or above

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4. First Aid Measures

IF SWALLOWED

Call a POISON CENTER/ doctor if you feel unwell.

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.

5. Fire Fighting Measures

Fire Extinguishing Agent	: Not applicable due to non-combustibility
Fire Extinguishing Agent Not To Be Used	: None in particular
Special Hazards	: High-temperature decomposition produces sulfur oxide.
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.

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.

7. Handling and Storage Instructions

Handling

Safe Handling Instructions : Wear protective equipment (Clause 8) to prevent contact or inhalation.

Contact Avoidance : Avoid mix and contact, since mix or contact with hypochlorous acid salts (hypochlorous acid soda, bleaching agent, bleaching powder, chlorine, etc.) produces toxic chlorine gas.

Hygiene Measures : Wash hands and face thoroughly after handling.

Storage

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

Container and Packing Material : Product container and appropriate product equipment

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8. Exposure Prevention and Protection Measures

Allowable Concentration : No data available

Equipment Measures : Install a safety shower, hand wash or face wash equipment nearby as needed.

Protective Equipment

Respiratory Protective Equipment : Wear suitable respiratory protective equipment.

Hand Protection : Wear suitable protective gloves.

Eye Protection : Use suitable eye protection.

Skin and Body Protection : Wear suitable protective clothing and masks.

9. Physical and Chemical Properties

Physical State, Form, Color	: White powder
Odor	: No odor
pH	: 2.5 (20% water solution: 20 °C)
Melting Point, Freezing Point	: No data available
Flash Point	: No data available
Specific Gravity	: No data available
Explosion Limits	: No data available
Solubility	: No data available
Autoignition Temperature	: No data available
Decomposition Temperature	: No data available

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10. Stability and Reactivity

Stability	: Stable under normal handling conditions
Reactivity	: No data available
Hazardous Reactivity	: Mix with hypochlorous acid salt produces toxic chlorine gas.
Conditions to Avoid	: Containers such as iron are inappropriate due to metal immersion. Avoid contact with oxidizer.
Incompatible Hazardous Materials	: Hypochlorous acid salts
Hazardous Decomposition Products	: Heating to more than 770°C produces toxic sulfur oxide.

11. Toxicological Information

Acute Toxicity	: Not classified
Skin Corrosivity/Irritation	: Unclassifiable
Serious Eye Damage/Eye Irritation	: Category 2A
Respiratory or Skin Sensitization	: No data available
Germ-Cell Mutagenicity	: Unclassifiable
Carcinogenicity	: No data available
Reproductive Toxicity	: No data available
Specific Target Organ Toxicity (Single exposure)	: No data available
Specific Target Organ Toxicity (Repeated exposure)	: No data available
Aspiration Hazard	: No data available

12. Environmental Impact Information

Hazardous to the aquatic environment – Acute hazard	: Category 3
Hazardous to the aquatic environment – Long term hazard	: Category 3
Ecotoxicity - Fish Toxicity	: Himedaka (<i>Oryzias latipes</i>) LC50; 710 mg/L (24hr), 480 mg/L (48hr)
Persistence/Resolvability	: Becomes aluminum hydroxide and sulfuric acid by hydrolysis
Bioaccumulation	: No data available
Migration in soil	: No data available
Harmfulness to ozone layer	: No data available

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Residual Waste

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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
Dangerous Goods Regulations (IATA)	: Not applicable
Marine Pollution Materials	: No data available
Special safety Measures	: Transport in an acid-proof container with necessary strength.
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)

Aluminum water-soluble salt (Aluminum sulfate)

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)

Aluminum water-soluble salt (Cabinet Order No. 37): 99% or above

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 dangerous goods

Civil Aeronautics Act

Not applicable

Ship Safety Act

Not applicable

Water Pollution Control Act

Order Article 3-3 Aluminum compound

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.