

SAFETY DATA SHEET

1. Chemical product and company identification

Product name	F1 PART B
Product usage	For Medical X-ray: F1 Fixer Part B (Approx.170ml X 4)
Company Name	DAITO MITECH, INC.
Address	3-10-22 Sakae, Naka-ku, Nagoya-shi, Aichi, 460-0008, JAPAN
Telephone Number	+81-52-251-7241 (9a.m-5p.m. , excluding Saturday, Sunday, and National Holiday)
FAX Number	+81-52-251-7247

2. Hazards identification

GHS classification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Category 2

*Degree of Hazards: Smaller category number is more hazardous.

*Hazards not stated here are "Not applicable" or "Classification not possible".

GHS label elements

Symbols



Signal words	Warning
Hazard statement	May be corrosive to metals. (Category 1) Causes serious eye irritation. (Category 2)

Precautionary statements

Prevention Keep only in original container. Wear eye/face protection. Wash thoroughly after handling.

Response Absorb spillage to prevent material damage. 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. See Section 4 (First aid measures).

Other hazards Hazard statement for corrosive to metals is based on the hazardous property of sulfuric acid.

National/local information See Section 15. REGULATORY INFORMATION

3. Composition/information on ingredients

Substance or mixture Mixtures

Components	CAS #	Gazette notification			Concentration (%)
		ENCS no.	ISHL no.		
water	7732-18-5	-----			70 - 90
aluminium sulfate [SSN]	10043-01-3	1-25	(1)-25		16 - 26
sulphuric acid	7664-93-9	1-430	(1)-430		0.5 - 1.5
Chemical formula	H ₂ O (7732-18-5), Al ₂ (SO ₄) ₃ (10043-01-3), H ₂ SO ₄ (7664-93-9)				

<The safety information for chemical substances less than 1% of the total is also listed based on Japanese regulations.>

Note: The notes / remarks within the brackets [] following the chemical substance names are used to communicate the following indications:

"PRTR S1" : Chemical substances that are designated in the Law for Promoting the Management of Chemical Substances as Specific Class 1 Chemical Substances.

"PRTR 1" : Chemical substances that are designated as Class 1 Chemical substances in the same Law.

"PRTR 2" : Chemical substances that are designated as Class 2 Chemical substances in the same Law.

"SSN" : Chemical substances that are subject to notification in accordance with the Labor Safety and Health Law.

4. First aid measures

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.
If on skin	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
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	Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Get medical attention immediately. Do NOT induce vomiting.
Protection of first-aid responders	The rescuers should wear proper personal protective equipment suitable for situation.

5. Fire-fighting measures

Extinguishing media	Carbon dioxide, dry chemical and protein based foam.
Extinguishing media to avoid	None.
Special fire fighting procedures	Keep personnel removed from and upwind of fire. Water runoff can damage the environment. Dike and collect water used to fight fire. Evacuate area and fight fire from a safe distance.
Protection of fire-fighters	Wear adequate personal protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures	Wear adequate personal protective equipment, see Section 8 (Exposure Controls/Personal Protection)
Environmental precautions	Prevent from entering into soil, waterways and ground water.
Clean-up methods and materials and containment measures	Spills should be contained by, and covered with suitable absorbent material and removed for disposal.

7. Handling and storage

Handling	
Technical measures	Avoid contact with skin, eyes and clothing. Wash hands after handling.
Local and general ventilation	Use only with adequate ventilation.
Precautions	See Section 8 (Exposure Controls/Personal Protection).
Safe handling advice	See Section 10 (Stability and reactivity). Follow Industrial Safety and Health Law.
Storage	
Suitable storage conditions	Protect from sunlight. Keep container tightly closed.
Safe packaging materials	Use plastic container that have enough toughness.

8. Exposure controls/personal protection

Occupational exposure limits

Japan. OELs - JSOH. (Japan Society of Occupational Health: Advisory Opinion on Permissible [Exposure] Limits)

Components	Type	Value
sulphuric acid (CAS 7664-93-9)	Ceiling	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
aluminium sulfate [SSN] (CAS 10043-01-3)	TWA	1 mg/m3	Respirable fraction.
sulphuric acid (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.

Engineering measures	Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.
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Personal protective equipment

Respiratory protection	Wear suitable respiratory protection if necessary.
Hand protection	Wear suitable gloves if necessary.
Eye protection	Use eye protection if necessary.
Skin and body protection	Wear suitable protective clothing if necessary.
Hygiene measures	Avoid contact with eyes.

9. Physical and chemical properties**Appearance**

Form	Liquid
Color	Colourless
Odor	Odourless
pH	1 (25 °C)
Melting point/Freezing point	32 °F (0 °C) Approx.
Boiling point, initial boiling point, and boiling range	212 °F (100 °C) Approx.
Flash point	Not flammable
Auto-ignition temperature	Not flammable.
Flammability limit - lower (%)	No data available.
Flammability limit - upper (%)	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Specific gravity	1.234
Density	No data available.
Solubility (water)	Completely soluble
Partition coefficient (n-octanol/water)	Not available
Decomposition temperature	No data available.
Viscosity	Like water

10. Stability and reactivity

Stability	Stable at normal conditions.
Possibility of hazardous reactions	None.
Conditions to avoid	Freezing. Protect against direct sunlight.
Incompatible materials	None.
Hazardous decomposition products	Sulphur oxides.
Other information	Corrosive to metals

11. Toxicological information

Acute Oral LD50 (Rat)	> 2000 mg/kg
Skin corrosion/irritation	No irritation
Serious eye damage/eye irritation	weakly irritant
Carcinogenicity	Substances in group [1;2A;2B] by IARC (International Agency for Research on Cancer):None

12. Ecological information

Bioaccumulation	Not established.
Mobility in soil	Not established.
Other hazardous effects	Not established

13. Disposal considerations

When disposing of the unused or intermediately used contents of this product : Fall under the category of a specifically controlled industrial waste. When consigning to a waste management professional, charge to a licensed specifically controlled industr When disposing of as the solution after mixed with other part : Does not fall under the category of a specifically controlled industrial waste. When your own wastewater treatment plant is not available, collect entire waste, and then charge to a licensed industrial waste management professional with manifests for the industrial waste. Laws and regulations to be followed while disposing of this product or waste : Japanese Waste Control and Public Cleaning Law: Falls under the category of a specifically controlled industrial waste (acidic waste) or industrial waste (acidic waste) Japanese Water Pollution Control Law: Effluent standard Japanese Sewer Management Law: Restricts discharging sewer.

14. Transport information

Marine transportation is regulated by IMDG Code. Air transportation is regulated by IATA Dangerous Goods Regulations.

----- Information for marine and air transportation to be passed to the shipping company -----

International regulations

Marine Transportation

Class or Division:	8, Corrosive
UN-No.:	UN3264
Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulphuric acid solution)
Packing Group:	III
Marine Pollutant:	None
Packing Instructions:	P001/LP01
EmS (Emergency Schedule):	F-A, S-B
Further Information:	Do not allow any contact with light metals - danger of corrosion.

Air Transportation

Class or Division:	8, Corrosive
UN-No.:	UN3264
Proper Shipping Name:	Corrosive liquid, acidic, inorganic, n.o.s. (sulphuric acid solution)
Packing Group:	III
Label (s):	8
Passenger and Cargo Aircraft:	Packaging Instruction 852 Max 5L
Cargo Aircraft Only:	Packaging Instruction 856 Max 60L
Further Information:	Do not allow any contact with light metals - danger of corrosion.

IATA; IMDG



Emergency Response Guide Number 154

15. Regulatory information

Law concerning the Examination and Regulation of Manufacture etc. of Chemical Substances

Class 1 Specified Chemical Substance:	Not regulated.
Class 2 Specified Chemical Substance:	Not regulated.
Monitoring Chemical Substances:	Not regulated.
Priority Assessment Chemicals:	Not regulated.

Industrial Safety and Health Law

Dangerous Substances Flammable:	Not regulated.
Dangerous Substances Flammable Gases:	Not regulated.
Dangerous Substances Oxidizing:	Not regulated.
Dangerous Substances Explosives:	Not regulated.
Dangerous Substances Ignitable:	Not regulated.
Harmful Substances Carcinogen:	Not regulated.
Class 1 Designated Chemical Substances:	Not regulated.
Class 2 Designated Chemical Substances:	Not regulated.
Class 3 Designated Chemical Substances:	Not regulated.
Class 1 Organic Solvents Preparations:	Not regulated.
Class 2 Organic Solvents Preparations:	Not regulated.
Class 3 Organic Solvents Preparations:	Not regulated.
Notifiable Substance:	aluminium sulfate[No.37]
Labeling Requirements:	aluminium sulfate[No.37]
Others:	Not regulated.

Poisonous and Deleterious Substances Control Law

Specified Poisonous Substance - Main Law:	Not regulated.
Specified Poisonous Substance - Cabinet Order:	Not regulated.
Poisonous Substances - Main Law:	Not regulated.
Poisonous Substances - Cabinet Order:	Not regulated.
Deleterious Substances - Main Law:	Not regulated.
Deleterious Substances - Cabinet Order:	Not regulated.
Enforcement Order Article 32-2:	Not regulated.
Enforcement Order Article 32-3:	Not regulated.
Not Considered Poisonous:	Not regulated.
Not Considered Deleterious:	Not regulated.

Fire Service Law

Class 1 Oxidizing Solids:	Not regulated.
Class 2 Flammable Solids:	Not regulated.
Class 3 Spontaneous combustibility and Water-reactivity Substances:	Not regulated.
Class 4 Flammable Liquids:	Not regulated.
Class 5 Self-Reactive Substances:	Not regulated.
Class 6 Oxidizing Liquids:	Not regulated.
Designated Flammable Substances:	Not regulated.
Storage Reporting Substance:	Not regulated.

Japan PRTR

Specific Class 1 Designated Substance:	Not regulated.
Class 1 Designated Substance:	Not regulated.
Class 2 Designated Substance:	Not regulated.

Ship Safety Law

Corrosive substance n.o.s (class 8)

Civil Aeronautics law

Corrosive substance n.o.s (class 8)

Japan Marine Pollution Prevention Law

Not regulated.

High Pressure Gas Safety law

Not regulated.

Gun Powder Control Law

Not regulated.

16. Other information

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.