



SAFETY DATA SHEET

1. Chemical product and company identification

Product name	F1 [A/B]
Product usage	For Medical X-ray: F1 [A/B] Fixer working solution (Approx. 4L)
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

Health hazards	Acute toxicity, oral	Not classified
	Skin corrosion/irritation	Not classified
	Serious eye damage/eye irritation	Not classified

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

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

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
ammonium thiosulfate	7783-18-8	1-405	(1)-405	7 - 15
sodium acetate	127-09-3	2-692	(2)-692, 2-(4)-581	1 - 5
aluminium sulfate [SSN]	10043-01-3	1-25	(1)-25	0.5 - 1.5
sodium bisulfite [SSN]	7631-90-5	1-502	(1)-502	0.5 - 1.5
sodium thiosulphate	7772-98-7	1-503	(1)-503	0.5 - 1.5

Chemical formula H₂O (7732-18-5), H₃N.1/2H₂S₂O₃ (7783-18-8), C₂H₄O₂.Na (127-09-3), Al.₃/2H₂SO₄ (10043-01-3), H₂SO₃.Na (7631-90-5), H₂S₂O₃.2Na (7772-98-7)

<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 with water. Get medical attention if irritation develops and persists.

If swallowed

Rinse mouth. Get medical attention.

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****US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
aluminium sulfate [SSN] (CAS 10043-01-3)	TWA	1 mg/m3	Respirable fraction.
sodium bisulfite [SSN] (CAS 7631-90-5)	TWA	5 mg/m3	

Engineering measures

Evacuate and ventilate spill area. Provide easy access to water supply and eye wash facilities.

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.

9. Physical and chemical properties**Appearance****Form**

Liquid

Color

Colourless

Odor

Acetic

pH

4.3 (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	1.106
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	May be released the harmful irritant gases when mixing with strong alkali or bleaching solution. Mixing with a strong acid may cause toxic sulfite gas to form.
Conditions to avoid	Freezing. Protect against direct sunlight.
Incompatible materials	strong alkali or bleaching solution Strong acids.
Hazardous decomposition products	CO,CO2 NH3,NOX Sulphur oxides.

11. Toxicological information

Acute Oral LD50 (Rat)	>5000 mg/kg
Skin corrosion/irritation	No irritation
Serious eye damage/eye irritation	non 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 your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for 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 an 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 Not regulated (IATA, IMDG)

IMDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

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: sodium bisulfite [No.26], aluminium sulfate [No.37]

Labeling Requirements: sodium bisulfite [No.26]

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 Not regulated.

Water-reactivity Substances:

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 Not regulated.

Civil Aeronautics law Not regulated.

Japan Marine Pollution Not regulated.

Prevention Law

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.