

Material Safety Data Sheet

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MSDS (Code. No.) No. J11032

Product name Standard solution 1

[Material identification]

Substrate/Mixture : Mixture (Solution)
Composition and contents : Triethanolamine (0.38% or less), Acetic Acid (0.38% or less),
Paraformaldehyde (0.05% or less)

*Weight percent are indicated about the quality of a statute subject (Industrial Safety and Health Law, PRTR Law, and Poisonous and Deleterious Substances Control Law).

[Hazards identification]

Name of division ; The corrosive substance is contained.
Physical hazard ; Incombustible, and not dangerous in common uses
Human health hazard ; No data available yet
Environmental effects ; The biodegradability is good.

[First aid measures]

If in eyes ; If even a small amount of the product gets into eyes, immediately wash affected eye by flushing a lot of water for 15 minutes or more.
Get medical treatment by an oculist.
If in skin ; Wash the affected area with a lot of water.
If inhaled ; ---

If ; Rinse inside the mouth with water sufficiently. Drink and vomit water or swallowed milk. immediately get medical treatment.

[Fire fighting measures]

Fire fighting procedure ; Noncombustible
Fire-extinguishing reagent ; ---
In case of a fire around the containers ; Move the containers to a safe place.
containing the products ; Try to extinguish the fire around the
containers.

[Measures against leak]

Wipes off with a dust cloth and a paper towel.

[Precautions in handling and storage]

Handling

- Wear proper personal protective device in order to avoid of the product with your eyes, skin, or clothes
- Never swallow the product by mistake.
- Do not handle the container so violently that they are rolled over, dropped or get impact.

Storage

- Lighten the stopper and avoid exposure to direct sunlight or hot materials.
- In the storage, the containers are not rolled over and dropped.

Other

- ---

[Exposure prevention measures]

Control concentration	Work environment- assessment standard	: -----	
Allowable limit	Advice value of Japan Society for Occupational Health	: Acetic Acid	10ppm (25mg/m ³) ¹⁾
	ACGIH (TLV)	: Acetic Acid	TWA 10ppm, STEL 15ppm
	OSHA (PEL)	: Acetic Acid	TWA 10ppm
	Advice value of Japan Society for Occupational Health	: Triethanolamine	Not advised. (1991 fiscal year edition)
	ACGIH	: Triethanolamine	Not advised. (1995 fiscal year edition)

Preventive measures	Facility measures	: The hand washing equipment is located near the working area, and its position is displayed clearly.
	Personal protective device	: Protective goggles, Rubber gloves.

[Physical/Chemical properties]

Appearance	Colorless solution	Vapor density	---
Odor	Has a slight odor.	Vapor pressure density	---
Boiling point	Ca.100 degrees Centigrade	Density	1.0 - 1.1 (25 degrees Centigrade)
Melting point	Ca.0 degrees Centigrade	pH	7.3 -7.5
Solubility	Miscible with water		

[Hazard information]

Flash point	Dissolvable water and non-flammable
Stability	Stable under the normal storage condition
Reactivity	None

[Health hazard information]

Sub-acute toxicity	---
Skin corrosive property	It is considered to be slightly corrosive.
Skin irritating property	It is considered to be slightly stimulative.
Eye irritating property	It is considered to be slightly stimulative.
mutagenicity	No data available yet
carcinogenicity	No data available yet
chronic toxicity	No data available yet
Others	No data available yet

[Ecological information]

Biodegradability	Good
Bio-accumulation	No data available yet
Ichthyotoxicity	Acetic acid
	<ul style="list-style-type: none"> • Shore crab (Crab) TLm45 180ppm¹⁾ • Brown shrimp (Shrimp) TLm45 100 - 330ppm¹⁾ • Bluegill (Bluegill) TLm45 75ppm¹⁾

Others No data available yet

[Cautions in disposal]

- Dilute the waste product with a large amount of water and dispose of it.

[Cautions in transport]

- When transporting the product, make sure that no leakage from the container, and put the containers on board properly not to topple over, fall down and be damaged.
- Avoid direct sunlight.

IATA	Non-hazardous Materials (Triethanolamine): According to ICAO/IATA regulations. Acetate
UN No.	Not applicable
UN proper shipping name	Not applicable
Transport hazard class(es)	Not applicable
Packing group	Not applicable

[Regulatory information]

Industrial Safety and Health Law	Not applicable	(Triethanolamine : Clause 57, item 2, Substance to be informed. No.380) (Acetic acid : Clause 57, item 2, Substance to be informed. No.177)
PRTR Law	Not applicable	
Poisonous and Deleterious Substances Control Law	Not applicable	(Acetic acid : deleterious substance (Packing grade 3))
Fire service law	Not applicable	(Triethanolamine : Hazardous substance, Class 4, The Third petroleum group (water-soluble liquid) (Acetic acid : Hazardous substance, Class 4, The Second petroleum group (water-soluble liquid) hazard grade 3)
Transportation and Storage Rule of the Vessels loaded Hazardous Substance	Not applicable	(Triethanolamine : Clause 3, The Third Attached Table of Notice, corrosive substance) (Acetic acid : corrosive substance)

Law for the Prevention of Water Pollution	Not applicable	(Acetic acid : Per The Power of Hydrogen)
Law of Treatment with Waste	Not applicable	(Acetic acid : The Special Management Industrial Waste (The waste acid : pH2 or less)
Aviation Law	Not applicable	(Triethanolamine : Enforcement regulations, Clause 194, The 11th Attached Table of Notice, corrosive substance)
Others	Not applicable	(Triethanolamine : It is specified as a raw material for Chemical Weapon.)

[Others]

- References, etc. : Guideline for preparation of Material Safety Data Sheet (Japan Chemical Industry Association)
 - 1) KAGA & ISHIDATE (Supervisors), "Data Base of the Environmental Mutagen", p5, Scicontest (1980)

Note:

Although all the contents are on the reference material, information and data currently available, the correctness and completeness thereof are not guaranteed. The precautions given herein are to ensure safety in case of normal handling of the products.

If some special handling is to be performed, provide additional precautions for safety according to the application and method.