

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
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Identification of the Material : Certified Reference Material NMIJ CRM 7901-a
 Arsenobetaine Solution
 Recommended Use of the Chemical and Restriction on Use : This CRM is intended for controlling the precision of analysis or for confirming the validity of analytical methods or instruments during the analysis of arsenobetaine. Do not use this reference material for other purposes than testing/research.
 This CRM is a reference material (specified in the Japanese Industrial Standard (JIS) Q 0030).

2. Hazards Identification

GHS classification : Acute toxicity (oral) : Category 5
 GHS label element : Not available
 Signal word : Warning
 Hazard and toxicity : May be harmful if swallowed.
 Other hazard and toxicity : Hazards : Substance not flammable or combustible
 Toxicity : Toxic when ingested. Irritates eye, throat and mucous membrane
 Physical and chemical hazards : Low in harmfulness if handled normally
 Precautionary statement : [Safety Measures]
 Not harmful under normal handling
 [Emergency Measures]
 Get medical advice/attention if you feel unwell.
 [Storage]
 Protect from light, at room temperature in a clean place
 Store in a locked area.
 [Disposal]
 The waste disposal should be outsourced to a specialized company authorized by the prefectural governor.

Hazards not mentioned above are either not classifiable or not applicable.

3. Composition/Information on Ingredients

Substance or mixture : Mixture

Component 1

Chemical name : Arsenobetaine

Synonym : -

Content : 0.0025 %

Chemical or structural formula : $C_5H_{11}AsO_2$

Molecular weight : 178.06

Reference Number in Gazetted List in Japan : Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. :-
Industrial Safety and Health Act :-

CAS number : 64436-13-1

Component 2

Chemical name : Water

Synonym : -

Content : 99.99 % or over

Chemical or structural formula : H_2O

Molecular weight : 18.01

Reference Number in Gazetted List in Japan : Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. :-
Industrial Safety and Health Act :-

CAS number : 7732-18-5

Poisonous or deleterious substance : Arsenobetaine

4. First-aid Measures

If in eyes : Immediately wash with plenty of clean water more than 15 minutes. Get medical advice.

If on skin : Wash with plenty of water. Remove contaminated cloth and shoes. Get medical advice.

If inhaled : Remove the victim to fresh air, keep at rest.
Rinse out and gargle with plenty of water.
Medical consultation as needed.

If swallowed : Wash mouth with plenty of water. Give one or two cup of water or milk. Get medical advice.
Immediate medical consultation required

Anticipated acute and : -

- delayed symptoms,
The most important characteristics and symptoms : -
Measures to be taken to protect the person applying first aid : Use suitable protective equipment to protect the skin from airborne droplets and avoid inhaling dust and gas.

5. Fire-fighting Measures

- Extinguishing media : Spray water, dry chemical powder, carbon dioxide, sand, foam.
No particular extinguishing agent prohibited from using.
- Specific hazards at the time of fire : May form irritating or toxic fume (or gas) at the time of fire.
- Specific extinguishing measures : Wear appropriate protective equipment to prevent inhaling fume.
Cut off feeding combustibles to fire source, extinguish with appropriate extinguishing agent on the windward if possible.
If impossible to move, by trying not to break the container, pour water carefully into the container to cool down.
- Protecting fire-fighting personnel : Protective equipment for extinguishing activity
- Protective clothing
 - Self contained breathing apparatus
 - Air-purifying or supplied air respirator
 - Rubber boots
 - Fire resistant clothing

6. Accidental Release Measures

- Personal precautions : No open flames or other source of ignition permitted around the spill area, remove ignition sources away from the area promptly.
- Protective equipment and emergency procedure : -
- Environmental precaution : As for the environmental protection, treat the material appropriately before discharging into the environment.
- Recovery, neutralization : Use sand or vermiculite to adsorb the substance and store in an airtight container exclusively for industrial wastes.
- Measures to prevent secondary accident : No open flames or other source of ignition permitted around the spill area, remove ignition sources away from the area promptly.
Prohibit entrance into the spill area by enclosing with a rope, etc.
Wear appropriate protective equipment and work on the windward.
To prevent causing environmental impact, do not release the spilled material into rivers, etc. directly.

7. Handling and Storage

Handling

- Precautions for safe handling : Use suitable protective equipment to prevent inhaling, coming in contact with eyes, skin and the clothing
Wash hands and face well, rinse the mouth and gargle with plenty of water after using this material.
Eating, drinking or smoking only at the designated areas.

Storage

- Appropriate condition : Keep container tightly closed after using this reference material.
Protect from sunlight. Store in dark at room temperature.
Store in a locked area.
- Safe packing material : Glass

※ Please refer to the certificate regarding details of appropriate storage conditions and precautions for use as reference material.

8. Exposure Controls/Personal Protection

Consideration on safety management

Not specified.

Threshold Limit Value

Not specified.

Occupational exposure levels

- ACGIH TLV-TWA : Not established
- Japan Society for Occupational Health : Not established

Occupational Health

Recommended

Reference Value

- OSHA PEL TWA : Not established

Facility engineering

Ventilation, exhaust : -

Safety management, gas detection : -

Storage precaution

- Storage precaution : Keep container tightly closed.
Protect from sunlight. Store in dark at room temperature.

Protective equipment

Respiratory organ : Respiratory protective equipment, air-supplied respirators to protect from cyanide fume,

Hand : Protective gloves

Eyes and face : Protective eyeglasses, safety face mask

Skin and body : Protective work clothing

9. Physical and Chemical Properties

- Appearance, etc. : Transparent liquid at ambient temperatures
- Color : Colorless and transparent

- Odor : No data
- pH : No data
- Melting point : Approximately 0 °C
- Boiling point : No data
- Flashing point : No data
- Explosive range : No data
- Vapor pressure : No data
- Relative vapor density(Air=1) : No data
- Specific gravity or bulk specific gravity : 0.997 g/cm³ (25 °C)
- Solubility : Mixes freely with water
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data

10. Stability and Reactivity

Not hazardous if stored or handled in normal condition

- ◇ Heating • combustion: Harmful if arsenic compound gasification occurs and its vapor inhaled
- ◇ Contact with water: Not hazardous
- ◇ Contact with air : Not hazardous

11. Toxicological Information

Acute toxicity (RTECS)

- ◇ Arsenobetaine (oral toxicity)
 - Mouse LD₅₀ : > 10 mg/kg

Mutagenic property

- No data available

Carcinogenicity

- No data available

12. Ecological Information

Residual persistency • Concentration

- No data available

Bioaccumulation Potential

- No data available

13. Disposal considerations

- Combustion method : Mix with combustible solvent and burn in an incinerator equipped with scrubber and afterburner
- Disposal by a commissioned professional waste disposal contractor authorized by a prefectural governor

14. Transport Information

UN Number	: Not applicable
UN Classification	: -
Shipping Name	: -
Packing Group	: -
ICAO/IATA	: Not applicable
Marine pollutant	: Not applicable
Precautions	: Avoid direct sunlight, ensure no leakage from the container, do not drop or break the container when loading

15. Regulatory Information

Fire Defense Law

- Not applicable

Poisonous and Deleterious Substances Control Law

- Article 2, Supplementary provision 1, Poisonous substance (arsenic compound and arsenic-containing products)

◎ **This SDS is originally prepared for the use of the material in Japan, thus the stated laws and regulations are stipulated and carried out in Japan. The use of the material in other countries should be referred to and by application of the relevant laws and regulations of the country in which the material will be used.**

16. Other information

Others

The information in this document is not intended to be exhaustive and is based on currently available information and data. The measures given in this document are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety measures appropriate to each specific application and context of use. This document is intended to provide information and not intended to guarantee anything in handling this reference material.
