



SAFETY DATA SHEET

according to JIS Z 7253:2019

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	30% Acrylamide / Bis-acrylamide (29:1) [for Electrophoresis]
Product code	:	A3217
Company	:	TOKYO CHEMICAL INDUSTRY CO., LTD.
Address	:	6-15-9 Toshima, Kita-ku, Tokyo 114-0003, Japan
Responsible Department	:	Global Business Department
Telephone	:	+81-3-5640-8878
Telefax	:	+81-3-5640-8902
E-mail address	:	globalbusiness@tcichemicals.com
Recommended use	:	For laboratory research purposes.
Restrictions on use	:	Not for drug or household use.

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Serious eye damage/eye irritation	:	Category 2A
Skin sensitization	:	Category 1
Germ cell mutagenicity	:	Category 1B
Carcinogenicity	:	Category 1B
Reproductive toxicity	:	Category 1B
Specific target organ toxicity - single exposure	:	Category 1 (Nervous system, Testes)
Specific target organ toxicity - repeated exposure	:	Category 1 (Nervous system, Testes)
Short-term (acute) aquatic hazard	:	Category 3

GHS label elements

Hazard pictograms	:	Two diamond-shaped hazard pictograms. The left one contains an exclamation mark inside a triangle. The right one contains a human silhouette with an exclamation mark inside a triangle.
Signal Word	:	Danger
Hazard Statements	:	Harmful if swallowed or in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs (Nervous system, Testes). Causes damage to organs (Nervous system, Testes) through prolonged or repeated exposure. Harmful to aquatic life.

Precautionary Statements**: Prevention:**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

: Response:

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
Rinse mouth.
IF ON SKIN: Wash with plenty of water. 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 exposed or concerned: Call a POISON CENTER/ doctor.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash it before reuse.

: Storage:

Store locked up.

: Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS RN	Concentration (% w/w)	ENCS/ISHL number
Acrylamide Monomer	79-06-1	29	2-1014
N,N'-Methylenebisacrylamide	110-26-9	>= 1 - < 10	2-1020

4. FIRST AID MEASURES

- If inhaled : Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/ physician.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off with soap and plenty of water.
Call a POISON CENTER or doctor/ physician.
- In case of eye contact : Rinse with plenty of water.
If easy to do, remove contact lens, if worn.
Call a POISON CENTER or doctor/ physician.
- If swallowed : Call a POISON CENTER or doctor/ physician.
Rinse mouth.
- Most important symptoms and effects, both acute and delayed : None known.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry powder, Foam, Water spray, Carbon dioxide (CO2)
Specific hazards during fire-fighting	:	Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Immediately evacuate personnel to safe areas. Remove undamaged containers from fire area if it is safe to do so.
Special protective equipment for fire-fighters	:	Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear suitable protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions	:	Prevent product from entering drains.
Methods and materials for containment and cleaning up	:	Collect as much of the spill as possible with a suitable absorbent material.

7. HANDLING AND STORAGE

Handling

Technical measures	:	Prevent generation of vapor or mist.
Local/Total ventilation	:	Ensure adequate ventilation. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use a local exhaust ventilation.
Advice on safe handling	:	Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Wash hands and face thoroughly after handling.
Avoidance of contact	:	Oxidizing agents, Bases

Storage

Conditions for safe storage	:	Keep container tightly closed. Store in a refrigerator. Store locked up.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

Components	CAS RN	Value type (Form of exposure)	Control parameters / Concentration standard / Permissible concentration	Basis
Acrylamide Monomer	79-06-1	ACL	0.1 mg/m ³	JP OEL ISHL
		OEL-M	0.1 mg/m ³	JP OEL JSOH
		Further information: Group 2: Substances presumed to cause reproductive toxicity in humans, Skin absorption, Skin sensitizing agent; Group 2 substances which probably induce allergic reactions in humans., Group 2A: probably carcinogenic to humans		
		TWA (Inhalable fraction and vapor)	0.03 mg/m ³	ACGIH

Engineering measures : Install a closed system or local exhaust.

Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection	:	Gas mask Self-contained breathing apparatus
Hand protection	:	Impervious gloves
Eye protection	:	Safety glasses Safety goggles Face-shield
Skin and body protection	:	Impervious protective clothing

*Use personal protective equipment(PPE) approved under appropriate government standards and follow local and national regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	colorless
Odor	:	No data available
Odor Threshold	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flammability	:	No data available
Lower explosion limit and upper explosion limit / flammability limit		
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	No data available
Decomposition temperature	:	No data available
pH	:	No data available
Autoignition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water (log value)	:	No data available
Vapor pressure	:	No data available

Relative density : No data available
Relative vapor density : No data available

10. STABILITY AND REACTIVITY

Reactivity : No data available
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : None under normal processing.
Conditions to avoid : Heat.
Incompatible materials : Oxidizing agents, Bases
Hazardous decomposition products : No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.
Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after single contact with skin.

Components:

Acrylamide Monomer:

Acute oral toxicity : LD50 (Rat): 124 mg/kg
Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicity : LC50 (Rat): > 6 ppm
Exposure time: 6 h
Test atmosphere: gas
Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity : LD50 (Rat): 400 mg/kg
Assessment: The component/mixture is toxic after single contact with skin.
Acute toxicity (other routes of administration) : LD50 (Rat): 90 mg/kg
Application Route: Intraperitoneal injection

N,N'-Methylenebisacrylamide:

Acute oral toxicity : LD50 (Rat): 390 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation

Components:

Acrylamide Monomer:

Result : Mild skin irritation

N,N'-Methylenebisacrylamide:

Result : Skin irritation

Serious eye damage/eye irritation**Product:**

Result : Eye irritation

Components:**Acrylamide Monomer:**

Result : Eye irritation

N,N'-Methylenebisacrylamide:

Result : Eye irritation

Respiratory or skin sensitization**Product:**

Assessment : May cause sensitization by skin contact.

Components:**Acrylamide Monomer:**

Assessment : May cause sensitization by skin contact.

Germ cell mutagenicity**Product:**

Germ cell mutagenicity - Assessment : Presumed to induce heritable mutations in the germ cells of humans.

Components:**Acrylamide Monomer:**

Germ cell mutagenicity - Assessment : Presumed to induce heritable mutations in the germ cells of humans.

N,N'-Methylenebisacrylamide:

Germ cell mutagenicity - Assessment : Suspected of inducing heritable mutations in the germ cells of humans.

Carcinogenicity**Product:**

Carcinogenicity - Assessment : Presumed to have carcinogenic potential for humans

Components:**Acrylamide Monomer:**

Carcinogenicity - Assessment : Presumed to have carcinogenic potential for humans

Reproductive toxicity**Product:**

Reproductive toxicity - Assessment : Presumed human reproductive toxicant

Components:**Acrylamide Monomer:**

Reproductive toxicity - Assessment : Presumed human reproductive toxicant

STOT-single exposure**Product:**

Target Organs : Nervous system, Testes
Assessment : Causes damage to organs.

Components:**Acrylamide Monomer:**

Target Organs : Nervous system, Testes
Assessment : Causes damage to organs.

STOT-repeated exposure**Product:**

Target Organs : Nervous system, Testes
Assessment : Causes damage to organs through prolonged or repeated exposure.

Components:**Acrylamide Monomer:**

Target Organs : Nervous system, Testes
Assessment : Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity : No information available.

Aspiration toxicity : No information available.

RTECS No. : AS3325000 (Acrylamide Monomer)
AS3678000 (N,N'-Methylenebisacrylamide)

12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:****Ecotoxicology Assessment**

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Components:**Acrylamide Monomer:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 110 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 98 mg/l
Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

N,N'-Methylenebisacrylamide:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 240 mg/l
Exposure time: 96 h

Persistence and degradability

No data available

Bioaccumulative potential**Components:****Acrylamide Monomer:**

Partition coefficient: n-octanol/water (log value) : -0.67

Mobility in soil**Components:****Acrylamide Monomer:**

Distribution among environmental compartments : Koc: 10

Hazardous to the ozone layer

Not applicable

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Disposal in accordance with local and national regulations.
Entrust disposal to a licensed waste disposal company.

Contaminated packaging : Disposal in accordance with local and national regulations.
Before disposal of used container, remove contents completely.

14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

UN/ID No. : UN 3426
Proper shipping name : Acrylamide solution
Class : 6.1
Packing group : III

IMDG-Code

UN number : UN 3426
Proper shipping name : ACRYLAMIDE SOLUTION

Class : 6.1
Packing group : III
EmS Code : F-A, S-A

ERG Code : 153P

15. REGULATORY INFORMATION**Related Regulations****Fire Service Law**

Not applicable

Chemical Substance Control Law

Priority Assessment Chemical Substance

Chemical name	Number
Acrylamide	34

Industrial Safety and Health Law**Harmful Substances Prohibited from Manufacture**

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Chemical name
acrylamide

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

Chemical name	Concentration (%)	Remarks
Acrylamide	29	-

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Chemical name	Remarks
acrylamide	-

Skin and Eye Damage Substances for PPE Requirements (ISHL MO Art. 594-2)

Chemical name
Acrylamide

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Chemical name
acrylamide

Ordinance on Prevention of Hazards Due to Specified Chemical Substances - Group 2 Substance

Chemical name
acrylamide

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

Poisonous and Deleterious Substances Control Law

Deleterious substance

Chemical name	Carabinet order No
Acrylamide and preparations containing it	1.3

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof**Class I Designated Chemical Substances**

Chemical name	Administration number	Concentration (%)
Acrylamide	2	29

Water Pollution Control Law

Designated substance (Law Art. 2-4, Enforcement Order Art. 3-3)

Narcotics and Psychotropics Control Act

Not applicable

Law on the Prohibition of Chemical Weapons and the Regulation of Specific Chemicals

Not applicable

16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

Date format : yyyy/mm/dd

This SDS was prepared sincerely based on the information obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling operations, sufficient care should be taken, in addition to the safety measures suitable for the given situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.