Wako Pure Chemical Industries, Ltd.

SAFETY DATA SHEET

According to JIS Z 7253:2012

Revision Date 12-Mar-2014
Version 1

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	a-Methylstyrene
Product code	136-04693, 130-04696
CAS No	98-83-9

Formula C6H5C(CH3):CH2

Manufacturer
Wako Pure Chemical Industries, Ltd
1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
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Emergency telephone number +81-6-6203-3741 / +81-3-3270-8571

Recommended uses and restrictions on use For research purposes

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Flammable liquids	Category 3 - (H226)
Aspiration toxicity	Category 1 - （H304）
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2A - (H319)
Germ cell mutagenicity	Category 2 - (H341)
Reproductive Toxicity	Category 2 - (H361)
Specific target organ toxicity (single exposure)	Category 2 - (H371, H335)
Category 2 nervous system.	
Category 3 Respiratory tract irritation	
Specific target organ toxicity (repeated exposure)	Category 1 - (H372, H373)
Category 1 Central Nervous System	
Category 2 kidneys, liver, respiratory system	
aquatic environment (acute hazard)	Category 2 - (H401)
aquatic environment (long-term hazard)	Category 2 - (H411)

Pictograms

Signal word Danger

Hazard statements
H226 - Flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H361 - Suspected of damaging fertility or the unborn child
H401 - Toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects
H371 - May cause damage to the following organs if inhaled: nervous system
H372 - Causes damage to the following organs through prolonged or repeated exposure: Central Nervous System
H373 - May cause damage to the following organs through prolonged or repeated exposure: kidneys, liver, respiratory system

Precautionary statements-(Prevention)

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Avoid release to the environment
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge

Precautionary statements-(Response)

- IF exposed or concerned: Get medical advice/attention
- 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 skin irritation occurs: Get medical advice/attention
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before reuse
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Do NOT induce vomiting
- In case of fire: Use CO2, dry chemical, or foam for extinction
- Collect spillage

Precautionary statements-(Storage)

- Store in a well-ventilated place. Keep cool

Precautionary statements-(Disposal)

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

Others

Other hazards Not available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Single Substance or Mixture Substance
Formula C6H5C(CH3):CH2

Chemical Name	Weight-%	Molecular weight	ENCS	ISHL No.	CAS No
alpha-Methylstyrene	98.0	118.18	(3)-8;(3)-5	N/A	98-83-9

Impurities and Stabilizing additives which constitute the substance No

Section 4: FIRST AID MEASURES

Inhalation

Remove to fresh air Call a physician immediately

Skin contact

Wash off immediately with soap and plenty of water Get medical attention if irritation develops and persists

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes Immediate medical attention is required

Ingestion

Rinse mouth Immediate medical attention is required Do not induce vomiting without medical advice

Protection of first-aiders

Use personal protective equipment as required

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO2, water spray or alcohol-resistant foam

Unsuitable extinguishing media

No information available

Special extinguishing method

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Protection of fire-fighters

Use personal protective equipment as required Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area)

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated See Section 12 for additional ecological information

Methods and materials for contaminent and methods and materials for cleaning up

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed. Please wash the rest with plenty of water. Absorb the product flowing out on the water to soak the absorber.

Recoverly, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Highly flammable. Avoid contact with high temperature objects, spark, and strong oxidizing agents. Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity) Use spark-proof tools and explosion-proof equipment

Use personal protective equipment as required

Storage

Safe storage conditions

Storage conditions Keep container protect from light tightly closed. Store in a cool (2-10 degree C) place.

Safe packaging material Glass

Incompatible substances Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or inhaling the gas. Work from windward, and retract the people downwind.

Control parameters Not regulated

Exposure limits

Chemical Name	Japan	ISHL Working Environmental Evaluation Standards - Administrative Control Levels	ACGIH
alpha-Methylstyrene 98-83-9	N/A	N/A	TWA: 10 ppm

Personal protective equipment

Respiratory protection gas mask for organic gas, air respirator

Hand protection Protection gloves

Eye protection protective eyeglasses or chemical safety goggles

Skin and body protection Wear suitable protective clothing, protective boots

General hygiene considerations

Do not eat, drink or smoke when using this product

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	colorless - slightly yellow clear liquid
Odor	Pungent
pH	
Melting point/freezing point	-23 °C
Boiling point, initial boiling point and boiling range	167 °C
Flash point	48 °C / 118 °F (TCC)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits	
Upper：	6.6 vol%
Lower：	0.9 vol%
Vapour pressure	29 Pa
Vapour density	4.08 (air = 1)
Specific Gravity (relatinve density)	0.907 - 0.912
Solubilities	water : very slightly soluble.
n-Octanol/water partition coefficient:（log Pow)	3.380
Auto-ignition temperature:	574 °C / 1065 °F
Decomposition temperature:	No data available
Viscosity (coefficient of viscosity)	No data available
Dynamic viscosity	No data available

Section 10: STABILITY AND REACTIVITY

Stability

Stability altered by light.
Reactivity No data available

Hazardous reactions

May polymerize by light and peroxides.

Conditions to avoid

Extremes of temperature and direct sunlight, Heat, flames and sparks, static electricity, spark

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monooxide (CO), carbon dioxide (CO2)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
alpha-Methylstyrene	4900 mg/kg (Rat)	16 mL/kg (Rabit)	N/A

Component	Acute toxicity -oral- source information	Acute toxicity -Dermal- source information	Acute toxicity -inhalation gas- source information
alpha-Methylstyrene 98-83-9 (98.0)	LD50(orl,rat):4900mg/kg(SIDS(1998)、環境省環境リスク評価Vol.4(2005)、DFGOTvol.15(2001))	LD50(skn,rabbit):16 mL/kg (14,500 mg/kg) (SIDS (2002))	Acute toxicity -inhalation gas- source 8

Component	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
alpha-Methylstyrene 98-83-9 (98.0)	Acute toxicity -inhalation vapor- source 2	Acute toxicity -inhalation dust- source2	Acute toxicity -inhalation mist- source 581

Skin irritation/corrosion

Component	Skin corrosion irritation source information
alpha-Methylstyrene 98-83-9 (98.0)	Skin corrosion irritation source 1738

Serious eye damage/ irritation

Component	Serious eye damage source information
alpha-Methylstyrene 98-83-9 (98.0)	Rabbit:Moderate(SIDS (2002)).

Respiratory or skin sensitization

Component	Respiratory, Skin sensitization source information
alpha-Methylstyrene 98-83-9 (98.0)	Respiratory, Skin sensitization source 1163

Reproductive cell mutagenicity

Component	Mutagenic source information
alpha-Methylstyrene 98-83-9 (98.0)	Mutagenic Source 1792

Carcinogenicity

Component	Carcinogenicity source infotmation
alpha-Methylstyrene 98-83-9 (98.0)	Carcinogenicity information source 1229

Chemical Name	NTP	IARC	ACGIH	Japan
alpha-Methylstyrene 98-83-9			A3	

Reproductive toxicity

Component	Reproductive toxicity source information
alpha-Methylstyrene 98-83-9 (98.0)	Reproductive toxicity source 1324

STOT-single exposure

Component	STOT -single exporsure- source information

alpha-Methylstyrene 98-83-9 (98.0)	STOT -single exporsure- source 1710

STOT-repeated exposure

Component	STOT -repeated exposure- source information
alpha-Methylstyrene 98-83-9 (98.0)	STOT -repeated exposure- source 1737

Aspiration hazard

Component	Aspiration Hazard source information
alpha-Methylstyrene 98-83-9 (98.0)	Aspiration Hazard source210

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
alpha-Methylstyrene	*N/A*	*LC50:Leuciscus idus 28 mg/L 48 h*	*EC50: Daphnia magna 2.6 mg/L 48 h*

Other data

Component	Aquatic toxicity -Acute- source information	Aquatic toxicity -Chronic- source information
alpha-Methylstyrene 98-83-9 (98.0)	EC50 （Daphnia magna）:2.6mg/L/48h（ Ministry of the Environment ecological effects test,1996）.	This compound is an acute toxicity category 2, and do not have rapid degradation.（ BOD：0%（Existing inspection, 1979））.

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Hazard to the ozone layer No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID

UN number UN2303
Proper shipping name: Isopropenylbenzene
UN classfication 3
Subsidiary hazard class
Labels
Packing group III
ERG Code 3L
Marine pollutant Yes

IMDG

UN number UN2303
Proper shipping name: Isopropenylbenzene
UN classfication 3
Subsidiary hazard class
Packing group III
EmS-No F-E, S-D
Marine pollutant (Sea) Yes

IATA

UN number	UN2303
Proper shipping name:	Isopropenylbenzene
UN classfication	3
Subsidiary hazard class	
Packing group	III
Marine pollutant	Yes

Section 15: REGULATORY INFORMATION

International Inventories

EINECS/ELINCS	-
TSCA	-

Japanese regulations

Fire Service Act	Category IV, Class IIpetroleums, dangerous grade 3
Poisonous and Deleterious Substances Control Law	No
Industrial Safety and Health Act	Notifiable Substances (Law Art.57-2, Enforcement Oder Art.18-2 Attached Table No.9, and Law Art.56-1), Dangerous Substances - Flammable Substance (Enforcement Order Attached Table 1 Item 4)
Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc	Priority Assessment Chemical Substances (Law Article 2, Para.5)
Regulations for the carriage and storage of dangerous goods in ship	Flammable Liquids (Ordinance Art.3, Ministry of Transportation Ordinance Regarding Transport by Ship and Storage, Attached Table 1)
Civil Aeronautics Law	Flammable Liquids (Ordinance Art.194, MITL Nortification for Air Transportation of Explosives etc., Attached Table 1)
Marine Pollution Prevention Law	
Pollutant Release and Transfer Register Law	Class 1
Water Pollution Control Act	No
Gunpowder Control Law	No
High Pressure Gas Safety Law	No

Dangerous component

Pollution Release and Transfer Registry

Class	Chemical Name in Regulation	(Metal Name)	Ordinance Number	Content Rate
Class 1	.alpha.-Methyl styrene	-	436	98%

Industrial Safety and Health Law

Law Name	Chemical Name in Regulation	Ordinance Number	Weight %
Notifiable Substances (Law Art.57-2, Enforcement Oder Art.18-2 Attached Table No.9, and Law Art.56-1)	.alpha.-Methyl styrene	36	98%

ETCO	Not applicable

Section 16: OTHER INFORMATION

Literature and references

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
GHS Classification is acoording to JIS Z7252(2010). *JIS: Japanese Industrial Standards

End of Safety Data Sheet