Created Date: 06/15/2010
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SAFETY DATA SHEET (SDS)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical Name:	Eslon Adhesive No.73S
Name, Address and Telephone Number of Supplier:	SEKISUI CHEMICAL CO., LTD. 2-10-4 Toranomon, Minato-ku, Tokyo 105-8566 Japan (The Okura Prestige Tower) Urban Infrastructure & Environmental Products Company, Pipe systems Division +81-3-6748-6492
Fax Number:	+81-3-6748-6564
Emergency Telephone:	+81-3-6748-6492
Emergency Contact:	Department in charge above
Recommended Use and Restrictions on Use:	Adhesive for rigid PVC piping system Other applications are prohibited
SDS Number:	#73S

2. HAZARDS IDENTIFICATION

GHS Classification

Physical Hazards	Explosives	Not classified
	Flammable gases	Not classified
	Aerosol	Not classified
	Oxidizing gases	Not classified
	Gases under pressure	Not classified
	Flammable liquids	Category 2
	Flammable solids	Not classified
	Self-reactive substances and mixtures	Not classified
	Pyrophoric liquids	Not classified
	Pyrophoric solids	Not classified
	Self-heating substances and mixtures	Classification not possible
	Substances and mixtures, which in contact with water, emit flammable gases	Not classified
	Oxidizing liquids	Not classified
	Oxidizing solids	Not classified
	Organic peroxides	Not classified
	Corrosive to metals	Not classified
	Desensitized explosives	Classification not possible
Health Hazards	Acute toxicity (Oral)	Category 4
	Acute toxicity (Dermal)	Category 4
	Acute toxicity (Inhalation: gas)	Not classified
	Acute toxicity (Inhalation: vapour)	Category 4
	Acute toxicity (Inhalation: dust/mist)	Classification not possible
	Skin corrosion/irritation	Category 2
	Serious eye damage/irritation	Category 2A
	Respiratory sensitization	Classification not possible
	Skin sensitization	Category 1
	Germ cell mutagenicity	Category 2
	Carcinogenicity	Classification not possible
	Reproductive toxicity	Category 2
	Specific target organ toxicity (Single exposure)	Category 1 (respiratory organs), Category 2 (kidney, central nervous system), Category 3 (narcotic effects, respiratory tract irritation)
	Specific target organ toxicity	Category 1 (respiratory

	(Repeated exposure)	organs, bones, digestive tract, nervous system, central nervous system)
	Aspiration hazard	Not classified
Environmental Hazards	Hazards to aquatic environment - acute hazard	Not classified
	Hazards to aquatic environment - chronic hazard	Not classified
	Hazardous to the ozone layer	Classification not possible

Pictograms:

Signal Words: Danger

Hazard Statements:

H302+H312+H332 Harmful if swallowed, in contact with skin, or inhaled
H225 Highly flammable liquid and vapour
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H341 Suspected of causing genetic defects
H361 Suspected of damaging fertility or the unborn child
H370 Causes damage to respiratory organs
H371 May cause damage to kidney, central nervous system
H372 Causes damage to respiratory organs, bones, digestive tract, nervous system, central nervous system through prolonged or repeated exposure

Precautionary Statements:

Prevention

Obtain special instructions before use. (P201)
Do not handle until all safety precautions have been read and understood. (P202)
Keep away from heat/sparks/open flames/hot surfaces. No smoking. (P210)
Keep container tightly closed. (P233)
Ground/Bond container and receiving equipment. (P240)
Use explosion-proof electrical/ventilating/lighting equipment. (P241)
Use only non-sparking tools. (P242)
Take precautionary measures against static discharge. (P243)
Do not breathe mist/vapours/spray. (P260)
Avoid breathing gas. (P261)
Avoid breathing mist/vapours/spray. (P261)
Avoid breathing dust/fume. (P261)
Wash hands thoroughly after handling. (P264)
Wash eyes thoroughly after handling. (P264)
Do not eat, drink or smoke when using this product. (P270)
Use only outdoors or in a well-ventilated area. (P271)
Contaminated work clothing should not be allowed out of work place. (P272)
Wear protective gloves/eye protection/face protection. (P280)
Wear protective clothing. (P280)

Response

IF ON SKIN: Wash with plenty of soap and running water. (P302+P352)
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. (P303+P361+P353)
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P340)

	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338) IF exposed or concerned: Get medical advice/attention. (P308+P313) Call a POISON CENTER or doctor/physician if you feel unwell. (P312) Get medical advice/attention if you feel unwell. (P314) Special treatment is required. (P321) Rinse mouth. (P330) If skin irritation: Get medical advice/attention. (P332+P313) If skin irritation or rash occurs: Get medical advice/attention. (P333+P313) If eye irritation persists: Get medical advice/attention. (P337+P313) Take off contaminated clothing and wash it before reuse. (P362+P364) In case of fire: Use appropriate fire extinguishing agents to extinguish. (P370+P378)
Storage	Store in well-ventilated place. Keep container tightly closed. (P403+P233) Store in a well-ventilated place. Keep cool. (P403+P235) Store locked up. (P405)
Disposal	Dispose of contents/container via a licensed industrial waste disposal contractor. (P501)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classification of Substance or Mixture: **Mixture**

Chemical or Generic Name: **Vinyl chloride-vinyl acetate copolymer resin adhesive**

Components	Concentration	CAS No.	Reference number in gazetted list in Japan (ENCS, ISHA)	Remarks
Cyclohexanone	30~40%	108-94-1	(3)-2376	
Methyl ethyl ketone	25~35%	78-93-3	(2)-542	
Acetone	15~25%	67-64-1	(2)-542	
Vinyl chloride-vinyl acetate copolymer resin	15~25%	9003-22-9	(6)-76	
Tin compound	0.1~0.3%	68109-88-6	(2)-3019	Manufacturing Country: Japan
		15571-58-1	(2)-2307	Manufacturing Country: Taiwan

4. FIRST AID MEASURES

If Inhaled:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention as needed.
If on Skin:	Clean the skin promptly. Take off contaminated clothing and wash it before reuse. If skin irritation, if you feel unwell, 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. Get medical advice/attention.
If Swallowed:	Immediately wash the mouth with water. Get immediate medical advice/attention. Do NOT induce vomiting.
Expected Acute and Delayed Symptoms:	Respiratory irritation, cough, shortness of breath due to inhalation. Gastrointestinal irritation, nausea, vomiting, diarrhea due to

swallowing.
Skin irritation and degreasing due to contact and eye irritation, redness, pain.
Anesthesia, headache, dizziness, tunnel vision, nausea, diarrhea and unconsciousness due to excessive exposure.

Advice to Protect the Rescuers: Rescuers need to wear appropriate protective equipment (such as gas masks for organic solvents) depending on the situation.

Note to Physician: No data

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Carbon dioxide, dry chemical powder, foam

Unsuitable Extinguishing Media: Jet water

Special Hazards and Risks: Fire may produce irritating, toxic or corrosive gases.
Extremely flammable, easy to catch fire when exposed to heat, sparks and flames.
The container is in danger of explosion due to heating.
Highly flammable liquids and vapors

Special Fire Extinguishing Method: Cut off the ignition resource and put out the fire with extinguishing medium.
In the large-scale fires, it is effective to use foam to block the air.
To prevent the spread of fire, cool down nearby facilities by sprinkling water in case of fire in the vicinity.
Fight fire from upwind side as far as possible, and wear breathing protective apparatus as appropriate.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Workers should wear appropriate protective equipment (see 8. EXPOSURE CONTROLS/PERSONAL PROTECTION) and avoid contact with eyes and skin, or inhalation of gas.
Evacuate immediate area. Keep unnecessary personnel away
Work from upwind and evacuate people downwind.
If indoors, provide adequate ventilation until the treatment is complete.

Environmental Precautions: Do not allow the product to enter rivers and other body of water, and avoid affect the environment.

Methods and Materials for Containment and Cleaning Up: Small spills: use adsorbents (sawdust, soil, sand, waste, etc.) to remove small amounts and then wipe off the rest with waste cloth, rag, etc.
Large spills: Dike with sand or soil, lead the flow to safety area for recycling.

Prevention Measures for Secondary Disaster: Quickly remove all ignition sources and equipped with suitable fire extinguishers.

7. HANDLING AND STORAGE

HANDLING

Technical Measures: Use appropriate protective equipment when there is a risk of inhalation or contact.
No smoking.

Local Exhaust / General Ventilation: Handle in a location with local exhaust or general ventilation equipment.

Precautions for Safe Handling and Measures: Remove hot materials, sparks and open flames around.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Avoid contact with eyes, skin or clothing.
Do not breathe mist/vapours/spray.
Do not handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area.

STORAGE

Storage Conditions: Keep away from heat/sparks/open flames, etc. -No smoking.
Store in a cool and ventilated place.
Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Equipment Measures: It is desirable to install a local exhaust system, seal the equipment, or provide proper ventilation so as not to inhale vapors.

	Cyclohexanone	Methyl ethyl ketone	Acetone
Exposure Limits:	20ppm	200ppm	500ppm
Allowable Concentration (Exposure Limits, Biological Limit Values):			
JSOH (2005):	25ppm	200ppm	200ppm
ACGIH(2005) TLV-TWA	20ppm	25ppm	250ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Gas mask for organic gas
Hand Protection: Impermeable protective gloves
Eye Protection: Goggles for organic solvent
Skin and Body Protection: Long sleeved overalls
Hygienic Measures Wash hands thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Liquid
Color Colorless and transparent
Odor Peculiar pungent odor
Melting Point/Freezing Point ≤ -20℃
Boiling Point, Initial Boiling Point and Boiling Range 56.5℃ (Boiling point)
Flammability Existence
Upper/Lower Flammability or Explosive Limits No data
Flash Point -17℃ (Closed cup)
Auto-ignition Temperature 420℃
Decomposition Temperature No data
pH Not applicable
Dynamic Viscosity About 560(mm^2/s)/20℃
Solubility Insoluble in water
N-octanol/water Partition Coefficient (log value) No data
Vapor Pressure No data
Density and/or Relative Density Approx. 0.90 (20℃)
Relative Vapour Density Not applicable
Particle Characteristics No data
Nonvolatile: Approx. 19%
Viscosity: Approx. 500mPa･s

10. STABILITY AND REACTIVITY

Reactivity None known.
Chemical Stability Stable under normal handling conditions.
Possibility of Hazardous Reaction Reacts violently with strong oxidants and ignites.
Condition to Avoid Heating.
Incompatible Materials Oxidants.
Hazardous Decomposition Products Combustion produces carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
(Attached table)

	Content	Acute toxicity (oral)	Acute toxicity (dermal)	Acute toxicity (inhalation: gas)	Acute toxicity (inhalation: vapour)	Acute toxicity (inhalation: dust/mist)
Cyclohexanone	30~40%	Category 4 (1544mg/kg)	Category 3 (947mg/kg)	Not classified	Category 3 (2450ppm)	Not classified (8000ppm)
Methyl ethyl ketone	25~35%	Not classified (>2000mg/kg)	Not classified (>5000mg/kg)	Not classified	Category 4 (11700ppm)	Classification not possible
Acetone	15~25%	Not classified (>5000mg/kg)	Not classified (>7400mg/kg)	Not classified	Not classified (32000ppm)	Classification not possible
Vinyl chloride-vinyl acetate copolymer resin	15~25%	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible

Acute Toxicity (Oral): Contains substances in the Attached table with Acute toxicity (oral). As a result, calculate the estimated value of the mixture as ATE_{mix} = 1500mg/kg.
The mixture is classified as Category 4.

Acute Toxicity (Dermal): Contains substances in the Attached table with Acute toxicity (dermal). As a result, calculate the estimated value of the mixture as ATE_{mix} = 1723mg/kg.
The mixture is classified as Category 4.

Acute Toxicity (Inhalation: vapour) Contains substances in the Attached table with Acute toxicity (Inhalation: vapour). As a result, calculate the estimated value of the mixture as ATE_{mix} = 17mg/L.
The mixture is classified as Category 4.

Skin Corrosion/Irritation: Contains substances with Skin Irritation in the following categories.
Category 2: Cyclohexanone (30~40%), Methyl ethyl ketone (25~35%)
The mixture is classified as Category 2.

Serious Eye Damage/Irritation: Contains substances with Serious Eye Damage/Irritation in the following categories.
Category 2A: Cyclohexanone (30~40%), Methyl ethyl ketone (25~35%)
Category 2B: Acetone (15~25%)
The mixture is classified as Category 2A.

Respiratory or Skin Sensitizations: Respiratory Sensitization: No data
Skin Sensitizations: Contains the following skin sensitizing substances.
Category 1: Cyclohexanone (30~40%)
The mixture is classified as Category 1.

Germ Cell Mutagenicity: Contains substances with Germ Cell Mutagenicity in the following categories.
Category 2: Cyclohexanone (30~40%)
The mixture is classified as Category 2.

Carcinogenicity: The mixture is Not classified.

Reproductive Toxicity: Contains substances with Reproductive Toxicity in the following categories.
Category 2: Cyclohexanone (30~40%), Acetone (15~25%)
The mixture is classified as Category 2.

Specific Target Organ Toxicity (Single Exposure): Contains substances with Specific Target Organ Toxicity (Single Exposure) in the following categories.
Cyclohexanone (30~40%)>1% Category 1 (respiratory organs) Category 2 (central nervous system) Category 3 (narcotic effects)
Methyl ethyl ketone (25~35%)>1% Category 2 (kidney) Category 3 (respiratory tract irritation)
Acetone (15~25%)>1% Category 3 (narcotic effects, respiratory tract irritation)
The mixture is classified as Category 1 (respiratory organs) Category 2 (central nervous system) Category 3 (narcotic effects, respiratory tract irritation)

Specific Target Organ Toxicity (Repeated Exposure):	Contains substances with Specific Target Organ Toxicity (Repeated Exposure) in the following categories. Cyclohexanone (30~40%)>1% Category 1 (bones, central nervous system) Methyl ethyl ketone (25~35%)>1% Category 1 (nervous system) Acetone (15~25%)>1% Category 1 (central nervous system, respiratory organs, digestive tract) The mixture is classified as Category 1 (respiratory organs, bones, digestive tract, nervous system, central nervous system)
Aspiration Hazards:	Contains ≥10% of the total amount of substances with Aspiration Hazards in the following categories, but the kinematic viscosity at 40°C is ≥20.5mm² /s. The mixture is Not classified.

12. ECOLOGICAL INFORMATION

Hazards to aquatic environment (chronic)	The mixture is Not classified.
Hazards to aquatic environment (acute)	The mixture is Not classified.
Ecological Toxicity:	No data
Persistence/Degradability:	No data
Bioaccumulation:	No data
Mobility in Soil:	No data
Hazardous to the ozone layer:	Ingredients of the product are not listed in the annex of Montreal Protocol, so it cannot be classified.

13. DISPOSAL CONSIDERLATIONS

Safety of chemicals, contaminated containers and packaging, and information about waste or recycling required by the environment	Dispose of waste and residues according to agreement with local authorities. Contract an agency for industrial waste disposal licensed by the prefectural governor or local public authorities to dispose of the substance. When contracting an agency for industrial waste disposal, fully notify the agency of possible danger and harmfulness of the substance. Containers should be cleaned and recycled, or properly disposed of in accordance with relevant regulations and local government standards. Empty the container completely because there will be residual.

14. TRANSPORT INFORMATION

UN No.:	1133
UN Proper Shipping Name:	ADHESIVES containing flammable liquid
Hazard Class:	Class 3 (Flammable Liquids)
Packing Group:	II
Marine Pollutant:	Hazardous liquid substances (Enforcement Order Appendix 1 Class Z Cyclohexanone, Methyl ethyl ketone, Acetone) However, the capacity of each container below 5L is not applicable
Domestic Restrictions	
Guidance number:	128
Land regulation information	Follow the provisions of the Fire Service Law.
Maritime regulation information	Follow the provisions of the Ship Safety Law, the Port Regulations Law and the Marine Pollution Prevention Law.
Airline regulation information	Follow the provisions of the Aviation Law.
Special security measures	Follow the provisions of the Fire Service Law. Prevent the goods from collapsing. Take applicable measures to prevent the containers from being dropped and damaged.

Do not fall, drop, shock or drag the dangerous goods or containers for storing dangerous goods.
During the transportation of dangerous goods, when serious leakage of dangerous goods and other possible disasters occur, emergency measures should be taken to prevent disasters, and the nearby fire control institutions or other relevant institutions should be notified.
The Yellow card of dangerous goods in road transport should be carried.
Do not transport with food and feed.

15. REGULATORY INFORMATION

Industrial Safety and Health Law:	Hazardous substances that should be notified of names, etc. (Article 57-2 of the Law) (Cyclohexanone, Methyl ethyl ketone, Acetone, Tin compound) Hazardous substances that should indicate names, etc. (Article 18 of the Enforcement Order) (Cyclohexanone, Methyl ethyl ketone, Acetone) Class 2 Organic solvents, etc. (Item 4, Paragraph 1, Article 1 of the Regulations on Prevention of Organic Solvent Poisoning) (Cyclohexanone, Methyl ethyl ketone, Acetone)
Fire Service Law:	Class 4, Class I Petroleum Water-insoluble Liquids (Hazard Class II)
Pollutant Release and Transfer Register (PRTR)	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Marine Pollution Prevention Law	Hazardous liquid substances (Enforcement Order Appendix 1 Class Z Cyclohexanone, Methyl ethyl ketone, Acetone) However, the capacity of each container below 5L is not applicable

16. OTHER INFORMATION

References:	1) Material Safety Data Sheet (MSDS)-Part 1: Contents and sequence of items 2) Guide to the Production of Product Safety Data Sheets (Revised Edition), Japan Chemical Industry Association 3) GHS classification result database, homepage of National Institute of Technology and Evaluation 4) Hazardous Chemicals Handbook Japan Industrial Safety and Health Association 5) Hazard communication of chemicals based on GHS -- Labelling and Safety Data Sheet (SDS) JIS Z 7253: 2019