Implementation: Sep. 20, 2011
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SAFETY DATA SHEET

1. Product and company (manufacturer) identification

Product:	ESLON Adhesive No.73S
Manufacturer:	Sekisui Chemical Co., Ltd.
Address:	Toranomon 2-10-4, Minato-ku, Tokyo 105-8566
Responsible section:	Urban Infrastructure & Environmental Products Company Pipe Systems Division
Telephone:	+81-3-6748-6492
Urgent telephone:	+81-3-6748-6492
Fax:	+81-3-6748-6564
Urgent contact:	Same as above
Application & restriction	Adhesive for polyvinyl chloride piping system Other applications are prohibited.
Document number:	#73S

2. Hazards identification

GHS Classification

Physicochemical hazards:	Explosives	Not classified
	Flammable gases	Not classified
	Aerosols and chemicals under pressure	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: vapor)	Category 4
	Acute toxicity (inhalation: dust and mist)	Classification not possible
	Skin corrosion/irritation	Category 2
	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) Category 2 (kidneys, central nervous system) Category 3 (narcotic effect, respiratory tract irritancy)
	Specific target organ toxicity (repeated exposure)	Category 1 (respiratory, bones, digestive tract, nervous system, central nervous system)
	Aspiration hazard	Not classified

Environmental hazards:

Hazard to the aquatic environment (acute hazard)	Not classified
Hazard to the aquatic environment (long-term hazard)	Not classified
Hazard to the ozone layer	Classification not possible

Pictogram or symbol:

Signal word: Danger

Hazard statement:
(H302+H312+H332) Harmful if swallowed, in contact with skin or if inhaled.
(H225) Highly flammable liquid and vapor.
(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 organs (respiratory).
(H371) May cause damage to organs (kidneys, central nervous system).
(H372) Causes damage to organs (respiratory, bones, digestive tract, nervous systems, central nervous systems) through prolonged or repeated exposure.

Precautionary statement:
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 dust/fume/gas/mist/vapors/spray. (P260)
Avoid breathing dust/fume/gas/mist/vapors/spray. (P261)
Wash hands and 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 the workplace. (P272)
Wear protective gloves/protective clothing/eye protection/face protection. (P280)
IF ON SKIN: Wash with plenty of soap and water. (P302+P352)
IF ON SKIN (or hair): Remove/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)
Specific treatment (see the label). (P321)
Rinse mouth. (P330)
If skin irritation occurs: 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 for extinction: (P370+P378)
Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
Store in a well-ventilated place. Keep cool. (P403+P235)
Store locked up. (P405)
Dispose of contents/container in accordance with local/regional/national/international regulations. (P501)

3. Composition/information on ingredients

Nature of composition: Mixture
Chemical or common name: Adhesive, containing vinyl chloride-vinyl acetate copolymer

Component	Content	CAS Number	Reference Number in Gazetted List in Japan	Others
Cyclohexanone	36%	108-94-1	(3)-2376	
Methyl ethyl ketone	27%	78-93-3	(2)-542	
Acetone	18%	67-64-1	(2)-542	
Resin (VC-VAc copolymer, etc.)	19%	9003-22-9	(6)-76	
Tin compound	Less than 0.3%	68109-88-6	(2)-3019	Made in Japan
		15571-58-1	(2)-2307	Made in Taiwan

4. First-aid measures

If vapor is inhaled: Take the affected person to a clean-air space and give him rest in a easy-breathing pose.
Seek physician's counsel as may be needed.

If touched to skin: Wash the skin immediately with a lot of water and soap.
Take off the contaminated clothing's for cleaning.
Seek physicians counsel if he suffers from irritation or drowsiness.

If gets in eye: Thoroughly wash the eye with clean water for a several minutes. Remove contact lens if easily removable. Continue washing after removal.
Seek physician's counsel.

If swallowed: Immediately wash the mouth with water.
Immediately seek physician's counsel.
Rinse the mouth well and drink a lot of water to vomit.

Anticipated acute & chronic symptoms: Irritation to respiratory organs, cough and gasp, when inhaled.
Irritation to digestive organs, nausea, vomit and diarrhea, when swallowed.
Skin irritation, defatting, eye irritation, reddening and ache, when contacted.
Anesthesia, headache, drowsiness, restricted vision, vomit, diarrhea and loss of consciousness, when over-exposed to vapor.

Protection of first-aid provider: First-aid provider should use protective wears such as organic solvent mask, when the circumstances require.

Special note to physician: No information

5. Fire-fighting measures

Extinguishing agents: Carbon dioxide, powder agent, foam agent
Prohibited extinguishing agent: Water flux
Specific hazards: Fire may cause to generate irritant, toxic or erosive gas.
Easily flammable. It will readily be ignited by heat, spark or flame.
Heating of container may cause explosion.
Easily inflammable liquid and vapor.

Proper extinguishing method: Remove surrounding combustibles and use extinguishing agents.
Use foam agent to choke a large scale fire.
Spray water over the neighborhood to cool and prevent fire spread.
Fight against fire standing to its windward as much as possible and wear Respirator if necessary.

6. Accidental release measures

Health hazard precaution, protective wear and first-aid Workers should use protective wears (See Chapter 8) to prevent contact with the spilt adhesive and inhalation of its vapor.
Rope off the crowd from the leak spot.
Work from the windward and evacuate the leeward crowd.
In case of indoor leakage, ventilate as much as possible until the cleaning is completed.

Environmental hazard precaution: Prevent flow out to rivers, etc. so as not to badly affect the environment.

Recovery and neutralization: For small scale leakage, use absorbent (sawdust, dirt, sand, waste rug) to remove most of the spill and wipe off the rest using waste rug.
For large scale leakage, build bank around the spill and lead the liquid to a safer place for recovery.

Prevention of secondary casualty: Quickly remove all the combustibles from around the leak spot and provide extinguishers ready for use.

7. Handling and storage precautions

Handling

Technical measures: Use protective wears if inhalation or skin contact is foreseen.
No open flames.

Local & total ventilation: Handling work must be practiced in a room where local or total ventilation facility is functioning.

Safe handling: Ban of high temperature substance, sparking and fire at nearby points.
Prohibition of eating, drinking and smoking while the product is used.
Wash hands well after handling.
Avoid contact of the product with eye, skin and clothing.
Do not inhale vapor, mist and spray of the product.
Handle it only after reading and understanding all the precautions.
Use the product only in a well ventilated room or outdoors.

Storage

Storing conditions: Store in a remote room from heat, sparks and naked flame. No smoking in the storage room.
Store in a cool, ventilated room.
Lock the storage room.

8. Exposure controls and personal protection

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent vapor inhalation.

	Cyclohexanone	Methyl ethyl ketone	Acetone
Control concentration:	20 ppm	200 ppm	500 ppm
Permissible concentration (Exposure limit, Biological exposure guide line)			
Japan society for occupational health.	25 ppm	200 ppm	200 ppm
ACGIH TLV-TWA	20 ppm	200 ppm	500 ppm

Protective wears:

Respiratory protection: Use aspirator with appropriate filter
Hand protection: Impermeable gloves
Eye protection: Solvent-resistant goggles
Skin and body protection: Long-sleeve fatigue uniform

Hygienic measures: Wash hands well after handling.

9. Physical and chemical properties

Physical state, form:	Liquid
Color:	Colorless, transparent
Odor:	Characteristic stimulative odor
Melting point/freezing point:	−20℃ or lower
Bp, initial bp & boiling range:	56.5℃ (bp)
Flammability:	Highly flammable liquid and vapor
Evaporation rate:	No data available
Flash point:	−17℃ (Closed Method)
Auto ignition point:	420℃
Decomposition temperature:	No data available
pH:	Not applicable
Dynamic viscosity:	ca. 560 mm^2/s (20℃)
Solubilities:	Insoluble in water
n-Octanol/water partition coefficient:(log Pow)	No data available
Vapor pressure:	No data available
Specific gravity (density):	ca. 0.90 (20℃)
Vapor density:	No data available
Particle characteristics:	No data available
Non-volatile content:	ca. 19%
Viscosity:	ca. 500 mPa・s

10. Stability and reactivity

Stability: Stable under normal conditions and handling.
Possibility of hazardous reaction: Vigorously reacts with strong oxidizing agents and ignites.
Prohibitive conditions: Heat
Prohibitive contact: Oxidizing agent
Hazardous decomposed substances: Generates aldehyde, acid and organic matter by thermal decomposition.

11. Hazard information

Acute toxicity:

(Appended Table)

	Content	Acute toxicity (oral)	Acute toxicity (dermal)	Acute toxicity (inhalation: gas)	Acute toxicity (inhalation: vapor)	Acute toxicity (inhalation: dust and mist)
Cyclohexanone	36%	Category 4 (1544mg/kg)	Category 3 (947mg/kg)	Not classified	Category 3 (2,450ppm)	Not classified (8,000ppm)
Methyl ethyl ketone	27%	Not classified (>2000mg/kg)	Not classified (>5000mg/kg)	Not classified	Category 4 (11,700ppm)	Classification not possible
Acetone	18%	Not classified (>5000mg/kg)	Not classified (>5000mg/kg)	Not classified	Not classified (32,000ppm)	Classification not possible
Resin (VC-VAc copolymer, etc.)	19%	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible

Acute toxicity (oral): The product contains substances of acute toxicity (oral) of Categories indicated in Appended Table. The dose is calculated for the mixture (the product) to be ATE mix=1500 mg/kg.
The product, as the mixture, falls in Category 4.

Acute toxicity (dermal): The product contains substances of acute toxicity (transdermal) of Categories indicated in Appended Table. The dose is calculated for the mixture (the product) to be ATE mix=1723 mg/kg.
The product, as the mixture, falls in Category 4.

Acute toxicity (inhalation: vapor): The product contains substances of acute toxicity (vapor inhalation) of Categories indicated in Appended Table. The dose is calculated for the mixture (the product) to be ATE mix=17mg/l
The product, as the mixture, falls in Category 4.

Skin corrosion/irritation: The product contains skin-irritating substances of the following Categories:
Category 2: Cyclohexanone (36%), methyl ethyl ketone (27%).
The product, as the mixture, falls in Category 2.

Eye damage/irritation: The product contains caustically injuring and irritating substances of the following Categories:
Category 2A: Cyclohexanone (36%), methyl ethyl ketone (27%)
Category 2B: Acetone (18%)
The product, as the mixture, falls in Category 2A.

Respiratory sensitization: Respiratory organ sensitization: No data available

Skin sensitization: The product contains caustically injuring and irritating substances of the following Categories:
Category 1: Cyclohexanone (36%).
The product, as the mixture, falls in Category 1.

Germ cell mutagenicity: The product contains mutagenicity substances of the following Category:
Category 2: Cyclohexanone (36%).
The product, as the mixture, falls in Category 2.

Carcinogenicity: Respiratory organ sensitization: No data available

Reproductive toxicity: The product contains reproductive toxicity of the following Category:
Category 2: Cyclohexanone (36%)、acetone (18%)
The product, as the mixture, falls in Category 2.

Specific target organ toxicity (single exposure): The product contains single-exposure toxic substances of the following
Cyclohexanone (36%)＞1%, Category 1 (respiratory), Category 2 (central nervous system) and Category 3 (narcotic effect),
Methyl ethyl ketone (27%)＞1%, Category 2 (Kidneys) and Category 3 (respiratory tract irritancy).
Acetone (18%)＞1%, Category 3 (narcotic effect, respiratory tract irritancy).
The product, as the mixture, falls in Category 1 (respiratory), Category 2 (kidneys, central nervous system) and Category 3 (narcotic effect, respiratory tract irritancy).

Specific target organ toxicity (repeated exposure): The product contains multiple-exposure toxic substances of the following Categories:
Cyclohexanone (36%)＞1%, Category 1 (bones, central nervous system),
Methyl ethyl ketone (27%)＞1%, Category 1 (nervous system),
Acetone (18%)＞1%, Category 1 (central nervous system, respiratory, digestive tract).
The product, as the mixture, falls in Category 1 (respiratory, bones, digestive tract, nervous systems, central nervous systems).

Aspiration hazard: The product contains more than 10% in total of respiratory-harmful substances of the following Category, however, the kinematic viscosity at 40℃ is more than 20.5 mm2/s:
Not classified as the mixture.

12. Ecological information

Hazard to the aquatic environment (Acute hazard): Not classified

Hazard to the aquatic environment (Long-term hazard): Not classified

Hazard to the ozone layer: Does not contain any ingredients listed in the Annexes to the Montreal Protocol. Classification not possible.

13. Notes on disposal

Residual & waste: In the disposal of residual and other wastes, observe the relevant laws /regulations and local government rules.
Users of the product should contract with the local government or licensed 'Industrial Waste Processors' for disposal of waste.
It is important to let the contractor know well of fire and health hazards of the product, prior to disposal.

Contaminated containers & packages: Clean the containers for reuse or dispose them properly in accordance with relevant regulations and local government rules.
Completely empty containers prior to disposal.

14. Transport information

International rule

UN number: 1133 (Adhesive, containing inflammable liquid)
UN classification: Class 3 (Inflammable liquid)
Packing Group: Ⅱ
Sea Pollution Prevention Act Harmful liquid material
The enforcement order separate table first; Z Group
(Cyclohexanone, methyl ethyl ketone, Acetone)
However, it is not applicable when net weight in one container is 5L or less.

Domestic control:

Guidance Number 128
Onshore control info. Observe the Fire Defense Law.
Offshore control info. Observe the Marine Vessel Safety Law.
Air cargo control info. Observe the Aviation Law.

Special safety measure: Observe the Fire Defense Law.
On-board containers of hazardous material must be piled firmly and orderly to avoid falling, tumbling and breaking.
Cargo of hazardous material must be transported in a way the containers or the material itself do not suffer severe friction and vibration.
If possible cause of casualty, such as heavy leakage, is found during transportation, try to remedy the situation and notify the fact to the nearby fire department or the relevant bureau.
The driver carrying hazardous material must hold Yellow Card.
Do not load hazardous materials together with food and feedstuff.

15. Regulatory information

Labor Safety and Hygiene Law: Hazardous materials to be notified to the authority (Chapter 57, Section 2)
(Cyclohexanone, methyl ethyl ketone, Acetone, Tin compound)
Hazardous materials to be posted (Chapter 18 of Ordinance)
(Cyclohexanone, methyl ethyl ketone, Acetone)
2nd class organic solvents (Solvent Addiction Prevention Rule, Clause 1.1.4)
(Cyclohexanone, methyl ethyl ketone, Acetone)
Carcinogenicity of chemical substances
(Ordinance on Industrial Safety and Health Chapter 34,Section 2-4)
Not applicable
Chemical substances that cause skin and other skin disorders
(related to Article 22 of the Law).
(Cyclohexanone, methyl ethyl ketone)

Fire Defense Law: No. 4 Haz-Mat, No.1 Petroleum, Non-water soluble liquid (Hazard Degree II)

PRTR Law: Not applicable
Poisonous & Deleterious Substance Control Law: Not applicable
Sea Pollution Prevention Act Harmful liquid material
The enforcement order separate table first; Z Group
(Cyclohexanone, methyl ethyl ketone, Acetone)
However, it is not applicable when net weight in one container is 5L or less.

16. Other information

Literature:

1) Chemicals Safety Data Sheet (MSDS) Part 1: Content and Order of Items
2) Guideline for MSDS Edition (Revised Edition) by Japan Chem. Ind. Assoc.
3) GHS Classification Database, Site of National Institute of Technology and Evaluation
4) Hazard Handbook of Chemicals by Japan Industrial Safety and Health Association
5) Hazard communication of chemicals based on GHS-Labelling and Safety Data Sheet (SDS) JIS Z 7253: 2019

This data sheet is edited by referring to currently available information, however, it is not intended to guarantee the data values or the precision of contained information. The precautions mentioned above are for ordinary handling and use only therefore please handle with care by implementing appropriate safety measures for new application and usage.