

SAFETY DATA SHEET**1. Product and company (manufacturer) identification**

Product: ESLON Adhesive No.110
Manufacturer: Sekisui Chemical Co., Ltd.
Address: Toranomon 2-10-4, Minato-ku, Tokyo 105-8566
Responsible section: Urban Infrastructure & Environmental Products Company
Industrial Piping Systems Division
Telephone: +81-3-6748-6489
Urgent telephone: +81-3-6748-6489
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Urgent contact: Same as above
Application & restriction Adhesive for rigid PVC piping system
 Other applications are prohibited.
Document number: #110

2. Hazards identification**GHS Classification****Physicochemical hazards:**

Explosives	Not applicable
Flammable gases	Not applicable
Aerosols and chemicals under pressure	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Category 2
Flammable solids	Not applicable
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	Classification not possible
Pyrophoric solids	Not applicable
Self-heating substances and mixtures	Classification not possible
Substances and mixtures which, in contact with water, emit flammable gases	Not applicable
Oxidizing liquids	Not applicable
Oxidizing solids	Not applicable
Organic peroxides	Not applicable
Corrosive to metals	Classification not possible
Desensitized explosives	Not applicable

Health hazards:

Acute toxicity (oral)	Category 4
Acute toxicity (dermal)	Category 4
Acute toxicity (inhalation: gas)	Not applicable
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	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 1 (respiratory, central nervous system)
	Category 2 (kidneys)
	Category 3 (respiratory tract irritancy, narcotic effect)
Specific target organ toxicity (repeated exposure)	Category 1 (liver, respiratory, bones, nervous system, central nervous system)
Aspiration hazard	Not Classified

Environmental hazards:

Hazard to the aquatic environment (Acute hazard)	Classification not possible
Hazard to the aquatic environment (Long-term hazard)	Classification not possible
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.
 (H351) Suspected of causing cancer.
 (H361) Suspected of damaging fertility or the unborn child.
 (H370) Causes damage to organs.(respiratory system, central nervous system)
 (H371) May cause damage to organs. (kidneys)
 (H372) Causes damage to organs through prolonged or repeated exposure. (liver, respiratory, nervous system, central nervous system)

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 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 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 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)
 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	37%	108-94-1	(3)-2376	
Tetrahydrofuran	34%	109-99-9	(5)-53	
Methyl ethyl ketone	10%	78-93-3	(2)-542	
Resin (CPVC)	18%	68648-82-8	(6)-75	
Tin compound	Less than 1%	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.

If touched to skin:

Seek physician's counsel as may be needed.

Wash the skin immediately with a lot of water and soap.

Take off the contaminated clothing's for cleaning.

If gets in eye:

Seek physicians counsel if he suffers from irritation or drowsiness.

Thoroughly wash the eye with clean water for a several minutes. Remove contact lens if easily removable. Continue washing after removal.

If swallowed:

Seek physician's counsel.

Immediately wash the mouth with water.

Immediately seek physician's counsel.

Anticipated acute & chronic symptoms:

Rinse the mouth well and drink a lot of water to vomit.

Irritation to respiratory organs, cough and gasp, when inhaled.

Irritation to digestive organs, bake, 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 river, 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.

Fire ban.

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.

8. Exposure controls and personal protection**Facility measures:**

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

Control concentration:**Permissible concentration (Exposure limit, Biological exposure guide line)**

Cyclohexanone

Tetrahydrofuran

Methyl ethyl ketone

20 ppm

50 ppm

200 ppm

Japan society for occupational health.

25 ppm

50 ppm

200 ppm

ACGIH TLV-TWA

20 ppm

50 ppm

200 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°C or lower

Bp, initial bp & boiling range:

65.4°C (bp)

Flammability:

Highly flammable liquid and vapor

Evaporation rate:

No data available

Flash point:

-17°C (Closed Method)

Auto ignition point:

320°C

Decomposition temperature:

No data available

pH:

Not applicable

Dynamic viscosity:ca. 1,700 (mm²/s)/20°C**Solubilities:**

Insoluble in water

n-Octanol/water partition coefficient: (log Pow)

No data available

Vapour pressure:

No data available

Specific gravity (density):

ca.0.95

Vapour density:

No data available

Particle characteristics:

No data available

Non-volatile content:

ca. 21%

Viscosity:

ca. 1600 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:

With 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	37%	Category 4 (1544 mg/kg)	Category 3 (947 mg/kg)	Not applicable	Category 3 (2450ppm)	Not Classified (8000 ppm)
Tetrahydrofuran	34%	Category 4 (1851 mg/kg)	Classification Not Possible	Not applicable	Not Classified (21000 ppm)	Classification Not Possible
Methyl ethyl ketone	10%	Not Classified (2483 mg/kg)	Not Classified (>5000 mg/kg)	Not applicable	Category 4 (11700 ppm)	Classification Not Possible
Resin (CPVC)	18%	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=1695 mg/kg.

Acute toxicity (dermal):

The product, as a mixture, falls in Category 4.

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=1940 mg/kg.

Acute toxicity (inhalation: vapor):

The product, as a mixture, falls in Category 4.

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=5537 ppm.

Skin corrosion/irritation:

The product, as a mixture, falls in Category 4.

The product contains skin-irritating substances of the following Categories:

Category 2: Cyclohexanone (37 %), tetrahydrofuran (34 %), methyl ethyl ketone (10 %).

Eye damage/irritation:

The product, as a mixture, falls in Category 2.

The product contains caustically injuring and irritating substances of the following Categories:

Category 2A: Cyclohexanone (37 %), tetrahydrofuran (34 %),

Category 2B: Methyl ethyl ketone (10 %).

The product, as a mixture, falls in Category 2A.

Respiratory sensitization:

Respiratory organ sensitization: No available data.

Skin sensitization:

The product contains caustically skin sensitization substances of the following Categories:

Category 1: Cyclohexanone (37 %)

The product, as a mixture, falls in Category 1.

Germ cell mutagenicity:

The product contains mutagenicity substances of the following Category:

Category 2: Cyclohexanone (37 %).

The product, as a mixture, falls in Category 2.

Carcinogenicity:

The product contains carcinogenic substances of the following Category:

Category 2: tetrahydrofuran (34 %).

The product, as a mixture, falls in Category 2.

Reproductive toxicity:

The product contains genotoxic substances of the following Category:

Category 2: Cyclohexanone (37 %).

The product, as a mixture, falls in Category 2.

**Specific target organ toxicity
(single exposure):**

The product contains single-exposure toxic substances of the following Categories:

Cyclohexanone (37%)>1%, Category 1 (respiratory system), Category 2 (central nervous system) and Category 3 (narcotic effect),

Tetrahydrofuran (34%)>1%, Category 1 (central nervous system) and Category 3 (respiratory tract irritancy),

Methyl ethyl ketone (10%)>1%, Category 2 (kidney) and Category 3 (respiratory tract irritancy, narcotic effect).

The product, as a mixture, falls in Category 1 (respiratory system, central nervous system), Category 2 (kidneys) 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 (37%)>1%, Category 1 (central nervous system, bones),

Tetrahydrofuran (34%)>1% Category 1 (respiratory, liver, nervous system),

Methyl ethyl ketone (10%)>1%, Category 1 (nervous system).

Aspiration hazard:

The product, as a mixture, falls in Category 1 (liver, respiratory, bones, nervous system, central nervous system).

The product contains more than 10% in total of respiratory-harmful substances of the following Category, however, the kinematic viscosity at 40°C is more than 20.5mm²/s:

Category 2: Cyclohexanone (37 %), tetrahydrofuran (34%), methyl ethyl ketone (10 %).

The product, as a mixture, falls Not Classified.

12. Ecological information**Hazard to the aquatic environment
(Acute hazard):**

Classification Not Possible.

**Hazard to the aquatic environment
(Long-term hazard):**

Classification Not Possible.

Hazard to the ozone layer:

Does not contain any ingredient 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, Tetrahydrofuran, Methyl ethyl ketone

However, it is non-corresponded when net weights of one container are less than 5L.

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, tetrahydrofuran, Methyl ethyl ketone, Tin compound
 Hazardous materials to be posted (Chapter 18 of Ordinance)
 Cyclohexanone, Tetrahydrofuran, Methyl ethyl ketone

2nd class organic solvents (Solvent Addiction Prevention Rule, Clause 1.1.4)

Cyclohexanone, Tetrahydrofuran, Methyl ethyl ketone
 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, Tetrahydrofuran, Methyl ethyl ketone

Fire Defense Law:

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

PRTR Law:

Class I Designated Chemical Substance Tetrahydrofuran
 Japan PRTR-SDS Number 674

**Poisonous & Deleterious Substance Control Law:
Sea Pollution Prevention Act**

Not applicable

Harmful liquid material

The enforcement order separate table first; Z Group
 (Cyclohexanone, tetrahydrofuran, methyl ethyl ketone)

However, it is non-corresponded when net weights of one container are less than 5L.

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-Labeling 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.