

### SAFETY DATA SHEET(SDS)

**1. Product and company(manufacturer) identification**

**Product:** ESLON Adhesive No.20S  
**Manufacturer:** Sekisui Chemical Co., Ltd.  
**Address:** Toranomon 2-3-17, Minato-ku, Tokyo 105-8450  
**Responsible section:** Urban Infrastructure & Environmental Products Company  
 Pipe Systems Division  
**Telephone:** 03-5521-0833  
**Urgent telephone:** 03-5521-0833  
**Fax:** 03-5521-0837  
**Urgent contact:** same as above  
**Application & restriction** Adhesive for rigid PVC piping system  
 Other applications are prohibited.  
**Document number:** #20S

**2. Hazards identification**

**GHS Classification**

<b>Physicochemical hazards:</b>	Explosives	Not applicable
	Flammable gases (including chemically unstable gases)	Not applicable
	Aerosols	Not applicable
	Oxidizing gases	Not applicable
	Gases under pressure	Not applicable
	Flammable liquids	Category 2
	Flammable solids	Not applicable
	Self-active chemicals	Not applicable
	Pyrophoric liquids	Not Classified
	Pyrophoric solids	Not applicable
	Self-heating chemicals	Classification Not Possible
	Chemicals which, in contact with water, emit flammable gases	Not applicable
	Oxidizing liquids	Not applicable
	Oxidizing solids	Not applicable
	Organic peroxides	Not applicable
	Substances corrosive to metals	Not Classified
<b>Health hazards:</b>	Acute toxicity (oral)	Category 5
	Acute toxicity (dermal)	Not Classified
	Acute toxicity (inhalation: gas)	Not applicable
	Acute toxicity (inhalation: vapor)	Category 5
	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	Classification Not Possible
	Germ cell mutagenicity	Not Classified
	Carcinogenicity	Classification Not Possible
	Reproductive toxicity	Not Classified
	Specific target organ toxicity (single exposure)	Category 1 (central nerve system) Category 2(kidney, nerve system) Category 3 (respiratory irritation)
	Specific target organ toxicity (repeated exposure)	Category 1 (Kidney, liver, central & peripheral nerve systems)
<b>Environmental hazards:</b>	Aspiration hazard	Not Classified
	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

<b>Hazard statement:</b>	Highly flammable liquid and vapor May be harmful if swallowed May be harmful if inhaled Causes skin irritation Causes serious eye irritation Causes damage to central nerve system May be damage to kidney and nerve system May be respiratory irritation Causes damage to liver, kidney, central and peripheral nerve systems, by elongated or repeated exposure
<b>Precautionary statement:</b>	The product may cause skin affection or intoxication if touched to the skin or inhaled the vapor. Please observe the precautions given below and refer to the SDS and the instruction sheet for safe handling. Provide local ventilation facility in the work place. Do not spill the adhesive when taking out of or returning to the container. Avoid skin contact during handling and wear Eyeglasses , long-sleeved shirts and gloves. Use respirator as needed. Wash hands and gargle sufficiently after handling. Close the cap of container tightly and store it in a cool, dark space. If the adhesive touched to skin, wipe the local spot immediately and wash well using soap. If itch or inflammation is felt, seek physician's counsel. In case the adhesive enters in eye or in case drowsiness is caused by inhalation or erroneous swallow is felt, immediately seek physicians council. Do not use the adhesive near fire. Never use the adhesive for other purposes than intended.

### 3. Composition/information on ingredients

Nature of composition: Mixture  
Chemical or common name: Adhesive, containing PMMA

Component	Content	CAS Number	Reference Number in Gazetted List in Japan	Others
Tetrahydrofuran	35 to 45 %	109-99-9	(5)-53	
Methyl ethyl ketone	35 to 45 %	78-93-3	(2)-542	
Resin (PMMA.)	10 to 20 %	Undisclosed	Undisclosed	

### 4. First-aid measures

<b>If vapor is inhaled:</b>	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.
<b>If touched to skin:</b>	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.
<b>If gets in eye:</b>	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.
<b>If swallowed:</b>	Immediately wash the mouth with water. Immediately seek physician's counsel. Rinse the mouth well and drink a lot of water to vomit.
<b>Anticipated acute &amp; chronic symptoms:</b>	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.
<b>Protection of first-aid provider:</b>	First-aid provider should use protective wears such as organic solvent mask, when the circumstances require.
<b>Special note to physician:</b>	No information

### 5. Fire-fighting measures

<b>Extinguishing agents:</b>	Carbon dioxide, powder agent, foam agent
<b>Prohibited extinguishing agent:</b>	Water flux
<b>Specific hazards:</b>	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.
<b>Proper extinguishing method:</b>	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**

<b>Health hazard precaution, protective wear and first-aid</b>	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.
<b>Environmental hazard precaution:</b>	Prevent flow out to river, etc. so as not to badly affect the environment.
<b>Recovery and neutralization:</b>	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.
<b>Prevention of secondary casualty:</b>	Quickly remove all the combustibles from around the leak spot and provide extinguishers ready for use.

**7. Handling and storage precautions**

<b>Handling</b>	<b>Technical measures:</b>	Use protective wears if inhalation or skin contact is foreseen. Fire ban.
	<b>Local &amp; total ventilation:</b>	Handling work must be practiced in a room where local or total ventilation facility is functioning.
	<b>Safe handling:</b>	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.
<b>Storage</b>	<b>Storing conditions:</b>	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**

<b>Facility measures:</b>	Local ventilation of closed work room or total proper ventilation to prevent vapor inhalation.	
<b>Control concentration:</b>	Tetrahydrofuran	Methyl ethyl ketone
<b>Permissible concentration (Exposure limit, Biological exposure guide line)</b>	50 ppm	200 ppm
Japan society for occupational health. (2005 version)	200 ppm	200 ppm
ACGIH (2005 version) TLV-TWA	50 ppm	200 ppm
<b>Protective wears:</b>	<b>Respiratory protection:</b> Use aspirator with appropriate filter	
	<b>Hand protection:</b> Impermeable gloves	
	<b>Eye protection:</b> Solvent-resistant goggles	
	<b>Skin and body protection:</b> long-sleeve fatigue uniform	
<b>Hygienic measures:</b>	Wash hands well after handling.	

**9. Physical and chemical properties**

<b>Physical state, form, color:</b>	Colorless transparent liquid
<b>Odor:</b>	Characteristic stimulative odor
<b>pH:</b>	Not applicable
<b>Bp, initial bp &amp; boiling range</b>	65.4°C (bp)
<b>Flash point:</b>	-17°C (Closed Method)
<b>Specific gravity (density):</b>	0,90
<b>Auto ignition point:</b>	320°C
<b>Viscosity:</b>	c. 380 mPa-s

**10. Stability and reactivity**

<b>Stability:</b>	Stable under normal conditions and handling.
<b>Possibility of hazardous reaction:</b>	Vigorously reacts with strong oxidizing agents and ignites.
<b>Prohibitive conditions:</b>	Heat
<b>Prohibitive contact:</b>	With oxidizing agent
<b>Hazardous decomposed substances:</b>	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)
Tetrahydrofuran	35 to 45 %	Category 4 (1851mg/kg)	Classification Not Possible	Not applicable	Not Classified (21000ppm)	Classification Not Possible
Methyl ethyl ketone	35 to 45 %	Category 5 (2483mg/kg)	Not Classified (>5000mg/kg)	Not applicable	Category 5 (11700ppm)	Classification Not Possible
Resin (PMMA)	10 to 20 %	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=2121 mg/kg.

**Acute toxicity(dermal):**

The product, as a mixture, falls in Category 5 (May be harmful if swallowed).  
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=5000 mg/kg.

**Acute toxicity(inhalation: vapor):**

The product, as a mixture, falls Not Classified.  
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=15027 ppm.

**Skin corrosion/irritation:**

The product, as a mixture, falls in Category 5 (May be harmful if inhaled ).  
The product contains skin-irritating substances of the following Categories:  
Category 2: tetrahydrofuran (35 to 45 %), methyl ethyl ketone (35 to 45 %).

**Eye damage/irritation:**

The product, as a mixture, falls in Category 2 (Causes skin irritation).  
The product contains caustically injuring and irritating substances of the following Categories:  
Category 2A: tetrahydrofuran (35 to 45 %),  
Category 2B: methyl ethyl ketone (35 to 45 %).

**Respiratory sensitization:**

The product, as a mixture, falls in Category 2A (Causes serious eye irritation).  
Respiratory organ sensitization: No available data.

**Skin sensitization:**

Skin sensitization: No available data.

**Germ cell mutagenicity:**

The product, as a mixture, falls Not Classified.

**Carcinogenicity:**

Cannot classify due to insufficient data

**Reproductive toxicity:**

The product, as a mixture, falls Not Classified.

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

The product contains single-exposure toxic substances of the following Categories:  
Tetrahydrofuran (35~45%) > 1%, Category 2 (Nerve system) and Category 3 (Bronchial irritation),  
Methyl ethyl ketone (35~45%) > 1%, Category 1 (Central nerve system), Category 2 (Kidney) and Category 3 (Bronchial stimulation).  
The product, as a mixture, falls in Category 1 (Causes damage to central nerve system), Category 2 (May cause damage to kidney and nerve system) and Category 3 (May be respiratory irritation).

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

The product contains multiple-exposure toxic substances of the following Categories:  
Tetrahydrofuran (35~45%) > 1% Category 1 (Kidney, liver, nerve system),  
Methyl ethyl ketone (35~45%) > 1%, Category 1 (Central and peripheral nerve systems).  
The product, as a mixture, falls in Category 1 (Causes damage to liver, kidney, central and peripheral nerve systems, by elongated or repeated exposure ).

<b>Aspiration hazard:</b>	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 14mm <sup>2</sup> /s: Category 2: tetrahydrofuran (35 to 45 %), methyl ethyl ketone (35 to 45 %). The product, as a mixture, falls Not Classified.
<b>12. Ecological information</b>	
<b>Hazard to the aquatic environment(Acute hazard):</b>	The product, as a mixture, falls Not Classified.
<b>Hazard to the aquatic environment(Long-term hazard):</b>	The product, as a mixture, falls Not Classified.
<b>Hazard to the ozone layer:</b>	Does not contain any ingredient listed in the Annexes to the Montreal Protocol. Classification Not Possible.
<b>13. Notes on disposal</b>	
<b>Residual &amp; waste:</b>	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.
<b>Contaminated containers &amp; packages:</b>	Clean the containers for reuse or dispose them properly in accordance with relevant regulations and local government rules. Completely empty containers prior to disposal.
<b>14. Transport information</b>	
<b>International rule</b>	
<b>UN number:</b>	1133 (Adhesive, containing inflammable liquid)
<b>UN classification:</b>	Class 3 (inflammable liquid)
<b>Container Grade</b>	II
<b>Sea Pollution Prevention Act</b>	Harmful liquid material The enforcement order separate table first; Z Group (tetrahydrofuran, methyl ethyl ketone) However, it is non-corresponded when net weights of one container are less than 5L
<b>Domestic control:</b>	
<b>Guidance Number</b>	128
<b>Onshore control info.</b>	Observe the Fire Defense Law.
<b>Offshore control info.</b>	Observe the Marine Vessel Safety Law.
<b>Air cargo control info.</b>	Observe the Aviation Law.
<b>Special safety measure:</b>	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.
<b>15. Regulatory information</b>	
<b>Labor Safety and Hygiene Law:</b>	Hazardous materials to be notified to the authority (Chapter 57, Section 2) (tetrahydrofuran, methyl ethyl ketone) Hazardous materials to be posted (Chapter 18 of Ordinance) (tetrahydrofuran, methyl ethyl ketone) 2nd class organic solvents (Solvent Addiction Prevention Rule, Clause 1.1.4) (tetrahydrofuran, methyl ethyl ketone)
<b>Fire Defense Law:</b>	No. 4 Haz-Mat, No.1 Petroleum, Non-water soluble liquid (Hazard Degree II)
<b>PRTR Law:</b>	Not applicable
<b>Poisonous &amp; Deleterious Substance Control Law:</b>	Not applicable
<b>Sea Pollution Prevention Act</b>	Harmful liquid material The enforcement order separate table first; Z Group (tetrahydrofuran, methyl ethyl ketone) However, it is non-corresponded when net weights of one container are less than 5L
<b>16. Other information</b>	
<b>Literature:</b>	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 7253:2012

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.