



## SAFETY DATA SHEET

### 1. PRODUCT IDENTIFICATION

<b>Name of product:</b>	<b>LIQUID BUFFER</b>
<b>Manufacture Information:</b>	MARUNI INDUSTRY CO., LTD. 11-1 Shariji 3-chome, Ikuno-ku, Osaka Japan 544-0022 Phone +81-6-6716-4171
<b>Emergency advice:</b>	Phone +81-6-6716-4171
<b>Recommended use(s):</b>	Solvent

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### 2. Hazards Identification

#### GHS Classification

Skin corrosion/irritation	Category 2
Eye corrosion/irritation	Category 2B
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Specific target organ toxicity - Single exposure	Category 1(nervous system, liver, kidney, respiratory organ, central nervous system) Category 3(anesthesia)
Specific target organ toxicity - Repeated exposure	Category 1(nervous system, liver, respiratory organ) Category 2(kidney)
Acute toxicity to the aquatic environment	Category 1
Chronic toxicity to the aquatic environment	Category 1

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#### Label Elements

**Pictogram and Symbol :**



**Signal word :**

**Danger**



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### Hazard statement :

H315	Causes skin irritation
H320	Causes eye irritation
H350	May cause cancer
H360	May damage fertility or the unborn child
H370	Causes damage to nervous system, liver, respiratory organ, kidney, central nervous system
H336	May cause drowsiness or dizziness
H372	Causes damage to organs through prolonged or repeated exposure : Central nervous system, Liver, Lungs
H373	May cause damage to Kidney through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

### Precautionary statements :

#### Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use ventilation system or personal protective equipment as required.

#### Response

P301+P312	IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P332+P313	IF skin irritation occurs: Get medical advice/attention.
P337+P313	IF eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.

#### Storage



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P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

### Disposal

P501 Dispose of contents/ container in accordance with local/ regional/ national/ international regulations.

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### 3. Composition/ information on ingredients

**Chemical Identity** Solvent

**Synonyms** - - -

**Chemical Formula** Mixture

CAS No.	Component Name	Percent
127-18-4	Tetrachloroethylene	> 50
1330-20-7	Xylene	< 20
100-41-4	Ethylbenzene	< 20

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### 4. First aid and Measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water, Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Never make him/her vomit by force. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.



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### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## 5. Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Hydrogen chloride gas

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. Handling and storage



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### 7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Light sensitive. Handle and store under inert gas.

Storage class(TRGS 510): Non-combustible, acute toxic Cat.3/ toxic hazardous materials or hazardous materials causing chronic effects.

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## 8. Exposure controls/ Personal protection

### 8.1 Engineering measures

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Use adequate ventilation.

### 8.2 Ventilation

Local exhaust; recommended, mechanical(General) ; recommended

### 8.3 Control parameters

Component Name	ACGIH TLV-TWA	OSHA PEL-TWA
Tetrachloroethylene	25 ppm	100 ppm
Xylene	100 ppm	150 ppm
Ethylbenzene	100 ppm	125 ppm

### 8.4 Personal protection

Respiratory protection	Safety masks
Hand protection	Chemical resistance gloves
Eye protection	Safety glasses(goggles)
Skin protection	Protective clothing

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## 9. Physical and Chemical properties

### 9.1 Information on basic physical and chemical properties

# element 1 : tetrachloroethylene

## element 2 : mixture of xylene and ethylbenzene

a) Appearance Clear, liquid



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b) Odour	No data available	
c) Odour Threshold	No data available	
d) pH	No data available	
e) Melting point/freezing point	-95°C ~ 13°C	
f) Initial boiling point and boiling range	121°C~ 144°C	
g) Flash point	No data available(element 1)	24°C~33°C(element 2)
h) Evaporation rate	No data available	
i) Flammability (solid, gas)	No data available	
j) Upper explosive limits	No data available(element 1)	9.0vol%(element 2)
Lower explosive limits	No data available(element 1)	1.0vol%(element 2)
k) Vapour pressure (at 20°C)	0.6~1.9 kPa	
l) Vapour density	3.7~5.7	
m) Relative density	1.49 g/ml	
n) Water solubility	0.015g/100ml(20°C)	0.02%(w/w)
	(element 1)	(element 2)
o) Partition coefficient : n-octanol/water	log Pow = 3.4	log Pow = 2.8~3.2
	(element 1)	(element 2)
p) Auto-ignition temperature	No data available(element 1)	432°C~528°C(element 2)
q) Decomposition temperature	No data available	
r) Viscosity	0.839 mPa·s(25°C)(element 1)	No data available(element 2)
s) Explosive properties	No data available	
t) Oxidizing properties	No data available	

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### 10. Stability and reactivity

#### 10.1 Reactivity

No data available

#### 10.2 Chemical stability

Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions

No data available

#### 10.4 Conditions to avoid

No data available

#### 10.5 Incompatible materials

Oxidizing agents, Strong bases, Magnesium



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### 10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire ; see section 5

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## 11. Toxicological information

### 11.1 Information on toxicological effects

	(element 1)	(element 2)
<b>Acute toxicity</b>		
LD50 Oral - Rat -	13,000 mg/kg	3,500g/kg
LC50 Inhalation - Rat - 4h -	27.8 mg/L	6,700 ppm
LD50 Dermal - Mouse -	5,000mg/kg	
LD50 Dermal - Rabbit -		15,400mg/kg
<b>Skin corrosion/irritation</b>		
Skin - Rabbit		
Result :	marked irritation	Moderate
<b>Eye damage/eye irritation</b>		
Eyes - Rabbit		
Result :	mild irritation	Moderate
<b>Respiratory or skin sensitization</b>		
	No data available	No data available
<b>Germ cell mutagenicity</b>		
	No data available	No data available
<b>Carcinogenicity</b>		
	IARC : 2A	IARC : Group 2B
<b>Reproductive toxicity</b>		
	No data available	Group 1B
<b>Specific target organ toxicity - single exposure</b>		
	No data available	Group 1(respiratory organ, liver, kidney, central nervous system) Group 3(anesthesia)
<b>Specific target organ toxicity - repeated exposure</b>		
	No data available	Group 1(respiratory organ, nervous system)

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## 12. Ecological information

(element 1)

(element 2)







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### 14.5 Environmental hazards

ADR/RID : yes

IMDG Marine pollutant: yes

IATA : yes

### 14.6 Special precautions for user

No data available

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## 15. Regulatory information

EU REGULATIONS : Labeling according to EC Directives ; See section 2

US REGULATIONS : Labeling according to US Directives ; See section 2

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## 16. Other information

**NOTICE:** MARUNI INDUSTRY CO., LTD. believes that information contained on this safety data sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements.

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Maruni Industry Co., Ltd

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Technical Division