



SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

Name of product: **LIQUID BUFFER**

Manufacture Information: MARUNI INDUSTRY CO., LTD.
11-1 Shariji 3-chome, Ikuno-ku, Osaka Japan 544-0022
Phone +81-6-6716-4171

Emergency advice: Phone +81-6-6716-4171

Recommended use(s): Solvent

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)
Specific target organ toxicity - Repeated exposure	Category 3(anesthesia) 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

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.

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

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

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

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Endure 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.

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.

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

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) (element 1)	0.02%(w/w) (element 2)
o) Partition coefficient : n-octanol/water	log Pow = 3.4 (element 1)	log Pow = 2.8 ~ 3.2 (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	

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

11. Toxicological information

11.1 Information on toxicological effects

	(element 1)	(element 2)
Acute toxicity		
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
Skin corrosion/irritation		
Skin - Rabbit		
Result :	marked irritation	Moderate
Eye damage/eye irritation		
Eyes - Rabbit		
Result :	mild irritation	Moderate
Respiratory or skin sensitization		
	No data available	No data available
Germ cell mutagenicity		
	No data available	No data available
Carcinogenicity		
	IARC : 2A	IARC : Group 2B
Reproductive toxicity		
	No data available	Group 1B
Specific target organ toxicity - single exposure		
	No data available	Group 1(respiratory organ, liver, kidney, central nervous system) Group 3(anesthesia)
Specific target organ toxicity - repeated exposure		
	No data available	Group 1(respiratory organ, nervous system)

12. Ecological information

(element 1) (element 2)



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12.1 Toxicity ; trichloroethylene

EC50	0.602 mg/ L/ 48h(daphnia magna)	
LC50		3.3mg/L/96h(rainbow trout)
BOD	11%	39%

12.2 Persistence and degradability

No data available	No data available
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12.3 Bioaccumulative potential

No data available	No data available
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12.4 Mobility in soil

No data available	No data available
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13. Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number

ADR/RID : 2810	IMDG : 2810	IATA : 2810
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14.2 UN proper shipping name

ADR/RID :	TOXIC LIQUID, ORGANIC, N.O.S.
IMDG :	TOXIC LIQUID, ORGANIC, N.O.S.
IATA :	TOXIC LIQUID, ORGANIC, N.O.S.

14.3 Transport hazard class(es)

ADR/RID : 6.1	IMDG : 6.1	IATA : 6.1
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14.4 Packaging group

ADR/RID : III	IMDG : III	IATA : III
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14.5 Environmental hazards

ADR/RID : no

IMDG Marine pollutant: no

IATA : no

14.6 Special precautions for user

No data available

15. Regulatory information

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

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

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