

# Safety Data Sheet

(SDS)

Enacted data : 1993/7/12  
Revised date : 2024/8/1

## 1. Product and Corporate Information

Reference number : 5G-003  
Product name : FULLON THINNER TX-S  
Company name : FURUTO INDUSTRIAL CO., LTD  
Address : 12-1 YOSHIMA INDUSTRIAL PARK, IWAKI City, FUKUSHIMA Prefecture  
970-1144 JAPAN  
Charge section : Sales Planning Department or Sales Department  
Telephone number : +81-246-36-4001  
FAX number : +81-246-36-7157  
Urgent information contact : Iwaki Yoshima Plant Technology Department  
Telephone number : +81-246-36-7154  
Expected application and precautions : Peeling masking agent for plating, diluent application  
Please refer to 7. HANDLING AND STORAGE and 8. EXPOSURE CONTROLS/  
PERSONAL PROTECTION.

## 2. Hazards Identification

### 【GHS classification】

#### Physical and Chemical Hazards

Explosives : Cannot be classified  
Flammable gases : Not applicable  
Aerosol : Not applicable  
Oxidizing gases : Not applicable  
High pressure gases : Not applicable  
Flammable liquids : Category2  
Flammable solids : Not applicable  
Self-reactive chemicals : Cannot be classified  
Spontaneous combustion liquids : Cannot be classified  
Spontaneous combustion solids : Not applicable  
Self-heating chemicals : Cannot be classified  
Chemicals which in contact with water emits flammable gases : Cannot be classified  
Oxidizing liquids : Cannot be classified  
Oxidizing solids : Not applicable  
Organic peroxide : Cannot be classified  
Metal corrosive substances : Cannot be classified  
Desensitized explosives : Cannot be classified

#### Health Hazards

Acute toxicity (Oral) : Not applicable  
Acute toxicity (Skin) : Not applicable  
Acute toxicity (Inhalation: Gas) : Not applicable  
Acute toxicity (Inhalation: Vapor) : Category4  
Acute toxicity (Inhalation: Dust, mist) : Cannot be classified  
Skin corrosive / Irritation : Category2  
Serious eyes damage / Eyes irritation : Category2  
Respiratory organs sensitization : Cannot be classified  
Skin sensitization : Category1  
Germ cell mutagenicity : Category2  
Carcinogenicity : Category1B  
Reproduction toxicity : Category1A  
Reproduction toxicity/Breastfeeding effect : Additional category  
Specific target organ toxicity-single exposure : Category1(Central nerve system)  
Category2(Respiratory system, kidney)  
Category3(Anesthetic action )  
Specific target organ toxicity-repeated exposure : Category1(Nervous system, kidney)  
Category2(Bone)  
Aspiration hazard : Cannot be classified

#### Environmental hazards

Aquatic environmental toxicity-acute : Category2  
Aquatic environmental toxicity-chronic : Category3  
Hazardous to the ozone layer : Cannot be classified

## 【GHS label element】

Pictorial indication:



Signal word

Hazards statement

: DANGER

: Highly flammable liquids and vapors

: Skin irritation

: May cause an allergic skin reaction

: Serious eye irritation

: Harmful if inhaled

: May cause drowsiness or dizziness

: Suspected risk of genetic disease

: Risk of cancer

: May cause harm to reproductive or fetus

: May cause harm to breast-fed children

: Cause damage to central nervous system

: May cause damage to respiratory system and kidneys

through prolonged or repeated exposure

: May cause damage to bone through prolonged or repeated exposure

: Toxic to aquatic life

: Harmful to aquatic life with long-lasting effects

Cautions

Precautionary statement

: Obtain the instruction manual before use

: Keep away from heat, hot surfaces, sparks, open flames  
and other sources of ignition/No smoking

: Keep the container closed well

: Do not breathe dust /fume /gas /mist /vapors /spray

: Avoid contact during pregnancy / nursing

: Wear protective gloves/ protective clothing/ protective glasses/  
protective surface.

First aid measures

: If exposed or suspected to be exposed, contact a doctor

: If exposed or suspected to be exposed, seek medical attention  
/treatment.

: If skin irritation occurs, seek medical attention /treatment.

: Remove contaminated clothing and wash before reuse

: In case of fire, use dry chemicals, water-soluble liquid foam,  
carbon dioxide, etc. to extinguish the fire.

Storage

: Store in a well-ventilated place/Keep in a cool place

Disposal

: The contents/containers must be outsourced to a professional waste  
disposal company licensed by the prefectural governor

## 3. Composition / information on ingredients

Mixture /Substance selection : Mixture

Chemical name /general name (Another name) : None

## Ingredient and concentration

Ingredient name	CAS No.	Content(%)	Remarks
Toluene	108-88-3	29-31	
Methyl-ethyl-ketone	78-93-3	33-35	Another name: MEK
Methyl isobutyl ketone	108-10-1	29-31	Another name: MIBK
Cyclohexanone	108-94-1	5.0-6.0	

Listed only if applicable to the Industrial Safety and Health Act, Chemical Substances Control Law,  
(PRTR Act) or the Poisonous and Deleterious Substances Control Act

## 4. First aid measures

If in eyes

: Rinse cautiously with water for several minutes.

Remove contact lenses, remove it out if easy. Continue rinsing

: If eye irritation persists, get medical advice/attention

If on skin

: If it gets on skin or hair, remove all contaminated clothing immediately  
and wash with plenty of running water/shower

: If contact skin, wash with plenty of water and soap

: If contact skin and feel unwell, contact a doctor

: If skin irritation or rash occurs, seek medical advice and treatment

If inhaled

: Remove person to fresh air and keep comfortable for breathing if inhaled

: Call a doctor if inhaled

: If feel unwell, contact the doctor and get medical advice/attention

: If breathing stops or becomes difficult, loosen clothing, secure airway,

If swallowed  
 administer artificial respiration, and seek medical attention  
 :Do not force to vomit.  
 :If swallowed and feel unwell, contact the doctor  
 :If swallowed, rinse mouth

## 5. Fire-fighting measures

Specific hazards :Extremely flammable/Can be easily ignited by heat, sparks or flame  
 :Container may explode if heated  
 :Fire may produce irritating, toxic, or corrosive gases  
 :Highly flammable liquid and vapour  
 Extinguishing media :Powder, carbon dioxide, dry sand, fire foam  
 Fire extinguishers should :Water  
 not be used :Do not use water jets to extinguish fires  
 Specific fire fighting method: :When extinguishing a fire, wear appropriate protective equipment and work from upwind to avoid contact with harmful gases, etc  
 :In the event of a large fire in the vicinity, spray water or foam extinguishing agents from a distance to the surrounding area  
 :Avoid spraying water in a straight line  
 Protective equipment for fire fighters :Wear appropriate protective equipment (gloves, glasses, mask, etc.)

## 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: If indoors, provide sufficient ventilation until treatment is complete  
 Prevent non-involved personnel from entering the area around the leakage site by erecting ropes, etc.  
 If there is a large amount, evacuate people safely  
 Work from upwind and evacuate people downwind  
 When working, wear appropriate protective equipment to avoid getting droplets on skin or inhaling gas  
 Prepare fire extinguishing equipment in case a fire ignites. Be careful as the spilled area can be slippery  
 Environmental Precautions: Be careful not to discharge spilled products into rivers or other bodies of water, thereby causing an impact on the environment  
 Do not allow spills to enter rivers or sewer systems directly  
 Methods and materials for containment and cleaning up: When evaporating or dispersing, be careful of fire and ventilation  
 If the amount is small, absorb it with dry sand, soil, etc. and collect it in a sealable container  
 If there is a large amount, surround it with embankments to prevent it from flowing out, guide it to a safe place, and then dispose of it  
 If the oil spills onto water, use absorbent materials (oil absorption mats, etc.) to recover the oil

## 7. Handling and storage

Handling (Technical measures, safety precautions, hygiene measures) :Obtain the instruction manual before use and do not handle until all safety precautions have been read and understood  
 :Wear appropriate protective equipment (safety glasses, mask, gloves) and handle in a well-ventilated area  
 :Do not handle the container by tipping it over, dropping it, or subjecting it to impact  
 :Do not eat, drink or smoke when using this product  
 :Wash hands thoroughly after handling  
 :Avoid release to the environment  
 Storage :Seal the container and store indoors away from direct sunlight and moisture  
 Safe condition :Store in a cool, well-ventilated place  
 :Make sure there are no leaks in the container and ensure that it does not tip over, fall, or collapse  
 :Store away from oxidizing agents and do not store near open flames or high heat sources  
 :Lock and keep it safe

## 8. Exposure control/ personal protection

## Control parameters

(The data of this product is not set. Component data are shown for reference.)

Ingredient name	Adopted value(ppm)
Toluene	20
Methyl-ethyl-ketone	200
Methyl-isobutyl-ketone	20
Cyclohexanone	20

## Occupational Exposure Limits

(The data of this product is not set. Component data are shown for reference.)

Ingredient	ACGIH		Japanese Society of Occupational Health	
	TWA*(ppm)	STEL**(ppm)	(ppm)	(mg/m <sup>3</sup> )
Toluene	20	–	50	188
Methyl ethyl ketone	200	300	200	590
Methyl isobutyl ketone	20	75	50	200
Cyclohexanone	20	50	25	100

\*TWA(Time Weighted Average)

Airborne concentrations of chemicals that most workers can be exposed to repeatedly every day without causing harmful health effects

\*\*STEL(Short Term Exposure Limit)

A 15-minute time-weighted average value above which workers should not be exposed at any given time during their work even if the TWA is within the acceptable range.

- Equipment Measures : No fires  
 : Properly install general ventilation and local exhaust ventilation systems  
 : Install hand washing and eye washing facilities near the handling area and indicate their locations  
 : Use explosion-proof electrical equipment, ventilation equipment, and lighting equipment  
 : Ground container. Take precautions against static discharge
- Protective equipment : Wear appropriate personal respiratory protection, protective gloves, eye protection and clothing as required  
 (Reference MIBK Protective Equipment):  
 Respiratory protective equipment: Consider wearing respiratory protective equipment (gas mask, etc.) if workers are exposed to gas or vapor  
 When handling high concentrations of chemical substances consider wearing an air-supplied respirator (JIS T8153). When selecting a gas mask, keep the following points in mind  
 • Do not use in locations where the oxygen concentration is less than 18%. If the oxygen concentration is less than 18%, consider wearing an air-supplied mask, air respirator, or oxygen respirator  
 • When workers use gas masks in environments where they are exposed to dust, they should use canisters with dust protection  
 • Gas masks must conform to the Japanese Industrial Standards (JIS T8152) and have performance and structure appropriate for the work  
 Refer to the data in the instruction manual, etc.  
 • Because working while wearing a gas mask puts more strain on the respiratory system than usual, those with respiratory diseases should consult a doctor to see if it is appropriate for them to work while wearing a gas mask  
 Hand protection: If protective gloves are considered effective, consider wearing impermeable gloves. When selecting protective gloves, keep the following points in mind  
 • Refer to the permeation resistance class listed in the instruction manual, set a sufficient usage time for the work, and use protective gloves within that time  
 Eye and face protection: Protective glasses (goggles)  
 Skin and body protection: Protective boots (antistatic, oil-resistant)  
 protective clothing (antistatic), protective apron

## 9. Physical and chemical properties

- Appearance : Liquid  
 Color : Colorless  
 Odor : Solvent odor  
 Melting point/freezing point : No knowledge(Reference value MEK melting point: -86°C)  
 Boiling point, initial boiling point and boiling range : No knowledge(Reference value MEK boiling point: 80°C)  
 Flammability : No knowledge  
 Lower and upper explosion limits /flammability limits : No knowledge(Reference value MEK: 1.8~11.5vol%)  
 Flash point : No knowledge(Reference value MEK: -9°C closed)  
 Spontaneous ignition point : No knowledge(Reference value MEK: 505°C)  
 Decomposition temperature : No knowledge  
 pH : No knowledge  
 Dynamic Viscosity : No knowledge  
 Solubility : Soluble in toluene, ethyl acetate, acetone, etc.  
 n-Octanol partition coefficient : No knowledge  
 Vapor pressure : No knowledge  
 Density and/or relative density : No knowledge(Reference value MEK: 0.80)

Relative Gas Density : No knowledge  
Particle Characteristics : No knowledge

## 10. Stability and Reactivity

Stability : Stable under normal storage / handling condition  
Possibility of hazardous reaction : May react with strong oxidants, inorganic acids, basic substances, and reducing agents and cause fire  
Condition to avoid : Heating and contact with incompatible materials  
Hazardous materials : Strong oxidizing agents, strong acids, bases, reducing agents  
Hazardous decomposition products : Carbon monoxide, carbon dioxide, etc. are produced by thermal decomposition

## 11. Toxicological information

Acute toxicity (Oral)	: Not applicable
Acute toxicity (Skin)	: Not applicable
Acute toxicity (Inhalation: Gas)	: Not applicable
Acute toxicity (Inhalation: Vapor)	: Based on the GHS classification criteria for mixtures, it was classified into Category4
Acute toxicity (Inhalation: Dust)	: Cannot be classified
Acute toxicity (Inhalation: Mist)	: Cannot be classified
Skin corrosive / Irritation	: Based on the GHS classification criteria for mixtures, it was classified into Category2
Serious eyes damage / Eyes irritation	: Based on the GHS classification criteria for mixtures, it was classified into Category2
Respiratory organs sensitization	: Cannot be classified
Skin sensitization	: Based on the GHS classification criteria for mixtures, it was classified into Category1
Germ cell mutagenicity	: Based on the GHS classification criteria for mixtures, it was classified into Category2
Carcinogenicity	: Based on the GHS classification criteria for mixtures, it was classified into Category1B
Reproduction toxicity	: Based on the GHS classification criteria for mixtures, it was classified into Category1A
Reproduction toxicity/Breastfeeding effect	: Based on the GHS classification criteria for mixtures, it was classified into additional category
Specific target organ toxicity—single exposure	: Based on the GHS classification criteria for mixtures, it was classified into Category1(Central nerve system) : Based on the GHS classification criteria for mixtures, it was classified into Category2(Respiratory system, kidney) : Based on the GHS classification criteria for mixtures, it was classified into Category3(Anesthetic action)
Specific target organ toxicity—repeated exposure	: Based on the GHS classification criteria for mixtures, it was classified into Category1(Nervous system, kidney) : Based on the GHS classification criteria for mixtures, it was classified into Category2(Bone)
Aspiration hazard	: Cannot be classified

## 12. Environmental impact information

Aquatic environmental hazards (acute)	: Based on the GHS classification criteria for mixtures, it was classified into Category2
Aquatic environmental hazards (chronic)	: Based on the GHS classification criteria for mixtures, it was classified into Category3
Persistence and degradability	: No data
Bioaccumulation	: No data
Mobility in soil	: No data
Harm to the ozone layer	: No data

## 13. Disposal considerations

: When disposing of this product, follow the relevant laws and regulations as well as local government standards  
: The contents and containers will be outsourced to specialized waste disposal companies authorized by the prefectural governor  
: When burned, harmful gases such as Carbon monoxide, carbon dioxide are generated, so incinerate with an incinerator equipped with an exhaust gas treatment device.  
: When treating wastewater containing this product, perform a toxicity test on activated sludge before treating the wastewater.  
: In addition to the precautions described in section, observe the general precautions for highly flammable hazardous liquid.

## 14 Transport information

## International Regulations

UN class	: Class 3 (flammable liquid), Container group II
UN No.	: 1993 (Medium flash point flammable liquid with no other hazards)
Product name	: Not applicable
Special safety measures	: Make sure that the container is free of leaks during transport, and load it up so that it does not fall or damage, and ensure prevention of load collapse : In addition to the precautions described in section, observe the general precautions for highly flammable hazardous liquid. : Avoid to carry this with peroxides and oxidants.

## 15 Regulatory information

## Fire Service Act

: Class 4, 1st petroleum (water-insoluble liquid)	Toluen, MEK, MIBK
: Class 4, 2nd petroleum (water-insoluble liquid)	Cyclohexanone

## Industrial Safety and Health Act

: Hazardous materials (flammable materials)	Toluen, MEK, MIBK Cyclohexanone
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: Organic Solvent Poisoning Prevention Regulations (Organic Solvent Regulations)  
Second class organic solvent Toluen, MEK, Cyclohexanone

: Specific Chemical Substances Hazard Prevention Regulations  
(Specific Chemical Substances Regulations)  
Specified chemical substances Class 2, special organic solvents, € MIBK

: Article 57-2: Substances subject to the obligation to label and notify  
Substances subject to notification Toluen, MEK, MIBK  
Cyclohexanone  
Substances subject to display Toluen, MEK, MIBK  
Cyclohexanone

: Article 594-2 Chemical substances that cause skin irritation Toluen, MEK  
Cyclohexanone

## Chemical Substances Control Law \* (PRTR Law)

: Class 1 designated chemical substances Toluen, MIBK

## Poisonous and Deleterious Substances Control Act

: Not applicable

## Ship Safety Act

: Medium flash point flammable liquid Toluen, MEK, MIBK  
Cyclohexanone

\*Law concerning the identification of emissions of specific chemical substances into the environment and the promotion of improvements in their management

## 16. Other information

## References

- Raw material SDS
- GHS Classification Results Database by National Institute of Technology and Evaluation
- i The "Safety Data Sheet" is a brief summary of the precautions for safe use of our products, and assumes normal handling.
- ii The "safety data sheet" is based on the findings up to the present and does not guarantee the completeness of the information, and may be revised as needed. Please be aware in advance.
- iii The information contained in the "Safety Data Sheet" does not guarantee the product specification or quality.  
Please refer to the "Safety Data Sheet" etc. for the conditions under which this product is used and consider at the user's responsibility.