

SAFETY DATA SHEET

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Revision Number 1

This document complies with the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico's NMX-R-019-SC-2011.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name TER-20 K27, TER-20 K27 Clear

Other means of identification

Product Code(s) 400583, 410583

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Etch Resist Coating

Uses advised against No information available

Supplier's details

Initial Supplier
Canadian address required

Supplier Address
Taiyo America, Inc.
2675 Antler Drive
Carson City, NV 89701
TEL: 775-885-9959

Emergency telephone number

Emergency Telephone Number 775-885-9959

2. HAZARDS IDENTIFICATION

Classification

This product is considered hazardous according to the criteria set within the US OSHA Hazard Communication Standard (29 CFR 1910.1200), Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR), and Mexico's NMX-R-019-SC-2011.

Carcinogenicity	Category 2
Reproductive Toxicity	Category 1B
Flammable liquids	Category 4

Label Elements

Danger



Hazard Statements

Suspected of causing cancer.
May damage fertility or the unborn child
Combustible liquid.

Physical and Health Hazards Not Otherwise Classified

Not applicable.

Precautionary Statements**Prevention**

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- Keep away from heat/sparks/open flames/hot surfaces - No smoking.

General Advice

- If exposed or concerned: Get medical attention/advice

Fire

- In case of fire: Use CO2, dry chemical, or foam for extinction.

Storage

- Store locked up.
- Store in a well-ventilated place. Keep cool.

Disposal

- Dispose of contents/container to an approved waste disposal plant.

Other information

Toxic to aquatic life with long lasting effects.

63.8405% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Talc	14807-96-6	26.9281	-	-
Naphtha (petroleum), heavy aromatic	64742-94-5	12.5952	-	-
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	71868-10-5	1.8301	-	-
Naphthalene	91-20-3	0.9714	-	-

4. FIRST AID MEASURES

Description of necessary first-aid measures**General Advice**

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician if necessary.

Inhalation

Move to fresh air. If symptoms persist, call a physician. If breathing is difficult, give oxygen.

Ingestion Rinse mouth. Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects May cause allergic skin reaction.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Water spray. Carbon dioxide (CO₂). Dry powder. Dry chemical.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical Combustible liquid. Vapors may travel to source of ignition and flash back. Risk of ignition. In the event of fire and/or explosion do not breathe fumes. Keep product and empty container away from heat and sources of ignition.

Explosion Data

Sensitivity to Mechanical Impact

None.

Sensitivity to Static Discharge

Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. Pay attention to flashback. In case of insufficient ventilation wear suitable respiratory equipment.

Environmental Precautions

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Avoid release to the environment. See Section 12 for additional Ecological Information. Dispose of contents/container to an approved waste disposal plant. Collect spillage.

Methods and materials for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Dam up. Take up with sand, earth or other noncombustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). In case of insufficient ventilation, wear suitable respiratory equipment. To avoid ignition of vapors by static electricity discharge, all

metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Keep away from heat, sparks and open flame. No smoking. Do not take internally.

Conditions for safe storage, including any incompatibilities

Storage Keep in properly labeled containers. Keep away from heat and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Products Strong oxidizing agents. Strong acids. Strong bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Talc 14807-96-6	TWA: 2 mg/m ³	(vacated) TWA: 2 mg/m ³	IDLH: 1000 mg/m ³ containing no asbestos and <1% quartz TWA: 2 mg/m ³
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Goggles.
Skin and Body Protection Impervious gloves. Impervious clothing.
Respiratory Protection In case of insufficient ventilation wear suitable respiratory equipment. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Viscous liquid.	Appearance	Blue or Clear.
Odor	Mild Solvent.	Odor Threshold	No information available.

Property	Values	Remarks/ - Method
pH	No data available	None known
Melting Point/Range	No data available	None known
Boiling Point/Boiling Range	No data available	None known
Flash Point	64 °C	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		
upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor Pressure	No data available	None known

Vapor Density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition Temperature	No data available	None known
Decomposition Temperature	No data available	None known
Viscosity	No data available	None known

Flammable Properties Combustible material: may burn but does not ignite readily

Explosive Properties No data available

Oxidizing Properties No data available

Other information

VOC Content (%) 27
VOC (g/l) 356

10. STABILITY AND REACTIVITY

Reactivity No data available.

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks. Incompatible products.

Incompatible materials Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products Carbon monoxide (CO). Carbon dioxide (CO₂). Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation There is no data available for this product.
Eye Contact Contact with eyes may cause irritation.
Skin Contact There is no data available for this product.
Ingestion There is no data available for this product.

Numerical measures of toxicity - Product

Unknown acute toxicity 63.8405% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document:

LD50 Oral 16713 mg/kg; Acute toxicity estimate
LD50 Dermal 39639 mg/kg; Acute toxicity estimate mg/L

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
Naphthalene	= 1110 mg/kg (Rat) = 490 mg/kg (Rat)	= 1120 mg/kg (Rabbit) > 20 g/kg (Rabbit)	> 340 mg/m ³ (Rat) 1 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Respiratory or Skin Sensitization No information available.
Germ Cell Mutagenicity No information available.
Carcinogenicity Contains a known or suspected carcinogen. Suspected of causing cancer.

Chemical Name	ACGIH	IARC	NTP	OSHA
Talc		Group 3		X
Naphthalene	A3	Group 2B	Reasonably Anticipated	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to its Carcinogenicity to Humans

NTP: (National Toxicity Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Reproductive Toxicity Contains a known or suspected reproductive toxin. May damage fertility or the unborn child
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organ Effects Liver. Kidney. Respiratory system. Eyes. Skin. Central nervous system (CNS). Blood. Gastrointestinal tract (GI).
Aspiration Hazard No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Talc 14807-96-6		LC50 96 h: > 100 g/L semi-static (Brachydanio rerio)		
Naphtha (petroleum), heavy aromatic 64742-94-5	EC50 72 h: = 2.5 mg/L (Skeletonema costatum)	LC50 96 h: = 1740 mg/L static (Lepomis macrochirus) LC50 96 h: = 19 mg/L static (Pimephales promelas) LC50 96 h: = 2.34 mg/L (Oncorhynchus mykiss) LC50 96 h: = 41 mg/L (Pimephales promelas) LC50 96 h: = 45 mg/L flow-through (Pimephales promelas)		EC50 48 h: = 0.95 mg/L (Daphnia magna)
Naphthalene 91-20-3	EC50 72 h: = 0.4 mg/L (Skeletonema costatum)	LC50 96 h: 0.91 - 2.82 mg/L static (Oncorhynchus mykiss) LC50 96 h: 5.74 - 6.44 mg/L flow-through (Pimephales promelas) LC50 96 h: = 1.6 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 1.99 mg/L static (Pimephales promelas) LC50 96 h: = 31.0265 mg/L static (Lepomis macrochirus)		EC50 48 h: 1.09 - 3.4 mg/L Static (Daphnia magna) EC50 48 h: = 1.96 mg/L Flow through (Daphnia magna) LC50 48 h: = 2.16 mg/L (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation

Chemical Name	Log Pow
Naphtha (petroleum), heavy aromatic	6.1
Naphthalene	3.6

Mobility No information available.

Other Adverse Effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment. Dispose of in accordance with local regulations.

Contaminated Packaging Do not re-use empty containers.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Naphthalene - 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145		U165
Component	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Naphthalene 91-20-3 (0.9714)			Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	

14. TRANSPORT INFORMATION

Note: Not regulated in quantities less than 5 liter per individual container. See IATA SP A197, IMDG 2.10.2.7 and ADR SP 375.

DOT Not regulated

TDG

UN-Number UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-, Naphthalene), 9, III, Marine Pollutant

MEX

UN-Number UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (1-Propanone,

2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-, Naphthalene), 9, III

IATA

UN-Number UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing Group III
ERG Code 9L
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-, Naphtha (petroleum), heavy aromatic), 9, III

IMDG/IMO

UN-Number UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing Group III
EmS No. F-A, S-F
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-, Naphtha (petroleum), heavy aromatic), 9, III, Marine Pollutant

15. REGULATORY INFORMATION

International Regulations

Ozone depleting substances Not applicable
Persistent Organic Pollutants Not applicable
Hazardous Waste Not applicable
The Rotterdam Convention (Prior Informed Consent) Not applicable
International Convention for the Prevention of Pollution from Ships (MARPOL) Not applicable

International Inventories

TSCA Complies
DSL Not determined
EINECS Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Diethylene glycol monoethyl ether acetate	112-15-2	13.7333	1.0
Naphthalene	91-20-3	0.9714	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard Yes
Fire Hazard Yes
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene	100 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Naphthalene	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Naphthalene	91-20-3	Carcinogen

U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Talc	X	X	X	X	X
Naphthalene	X	X	X	X	
1,2,4 Trimethylbenzene	X	X	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA Health Hazard 1 Flammability 2 Instability 0 Physical and Chemical Hazards -

HMIS Health Hazard 1* Flammability 2 Physical Hazard 0 Personal Protection X

*Indicates a chronic health hazard.

Prepared By Product Stewardship
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General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet