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Revision Number 1

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 400583, 410583

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

Contains Naphtha (petroleum), heavy aromatic, 1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-, Naphthalene

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Etch Resist Coating

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Company

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

For further information, please contact

E-mail Address No information available.

1.4. Emergency telephone number

Emergency Telephone Number 775-885-9959

Europe	112
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Section 2. Hazards identification

2.1. - Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Reproductive Toxicity	Category 1B
Chronic Aquatic Toxicity	Category 2

Physical Hazards

None

2.2. Label Elements



Signal Word

Danger

Hazard Statements

H360 - May damage fertility or the unborn child

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements

P201 - Obtain special instructions before use

P281 - Use personal protective equipment as required

P308 + P313 - IF exposed or concerned: Get medical advice/ attention

P273 - Avoid release to the environment

P391 - Collect spillage

2.3. Other information**Section 3. Composition/information on ingredients****3.1. Substances**

Not applicable

3.2. Mixtures

Chemical Name	EC-No	CAS-No	Weight %	EU - GHS Substance Classification	REACH No.
Talc	238-877-9	14807-96-6	10-30		No data available
Naphtha (petroleum), heavy aromatic	Present	64742-94-5	10-30	Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Present	71868-10-5	1-5	Repr. 1B H360FD Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)	No data available
Naphthalene	Present	91-20-3	0.1-1	Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available

For the full text of the H-Statements mentioned in this Section, see Section 16

Section 4. First aid measures**4.1. Description of 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.

Ingestion

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

Inhalation

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

Protection of First-aiders

Use personal protective equipment. Avoid contact with skin, eyes and clothing.

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

Most Important Symptoms/Effects May cause allergic skin reaction.

4.3. Indication of immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. Dry powder.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

Combustible material. Vapors may travel to source of ignition and flash back.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. 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.

6.3. Methods and materials for containment and cleaning up

Use personal protective equipment. Dam up. Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Clean contaminated surface thoroughly.

6.4. Reference to other sections

See Section 12 for additional information.

Section 7. Handling and storage

7.1. Precautions for Safe Handling

Handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from heat, sparks and open flame. No smoking. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Do not take internally.

Hygiene Measures

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

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Exposure Scenario

No information available.

Other Guidelines

No information available.

Section 8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical Name	EU	The United Kingdom	France	Spain	Germany
Talc 14807-96-6		STEL: 3 mg/m ³ TWA: 1 mg/m ³		TWA: 2 mg/m ³	
Naphthalene 91-20-3	TWA 10 ppm TWA 50 mg/m ³		TWA: 10 ppm TWA: 50 mg/m ³	S* STEL: 15 ppm STEL: 80 mg/m ³ TWA: 10 ppm TWA: 53 mg/m ³	Skin TWA: 0.1 ppm TWA: 0.5 mg/m ³
Component	Italy	Portugal	The Netherlands	Finland	Denmark
Talc 14807-96-6 (10-30)		TWA: 2 mg/m ³	TWA: 0.25 mg/m ³	TWA: 0.5 fiber/cm ³ TWA: 5 mg/m ³	TWA: 0.3 fiber/cm ³
Naphthalene 91-20-3 (0.1-1)		STEL: 15 ppm TWA: 10 ppm TWA: 50 mg/m ³	Skin STEL: 80 mg/m ³ TWA: 50 mg/m ³	TWA: 1 ppm TWA: 5 mg/m ³ STEL: 2 ppm STEL: 10 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Talc 14807-96-6	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³	TWA: 6 mg/m ³ TWA: 2 mg/m ³ STEL: 12 mg/m ³ STEL: 4 mg/m ³	TWA: 10 mg/m ³ TWA: 0.8 mg/m ³
Naphthalene 91-20-3	Skin TWA: 10 ppm TWA: 50 mg/m ³	Skin TWA: 10 ppm TWA: 50 mg/m ³	STEL: 50 mg/m ³ TWA: 20 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 20 ppm STEL: 75 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³

Component	Italy	Portugal	Netherlands	Finland	Denmark
Naphthalene 91-20-3 (0.1-1)	(ACGIH:) urine end of shift at end of workweek 1-Hydroxypyrene (with hydrolysis) Nonquantitative				
Component	Romania	Slovakia	Latvia	Bulgaria	
Naphthalene 91-20-3 (0.1-1)		5.66 µg/L urine end of exposure or work shift 1-Hydroxypyrene Carcinogens, category 2			

Derived No Effect Level No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection

Safety glasses with side-shields.

Skin and Body Protection

Long sleeved clothing.

Hand Protection	Protective gloves.
Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental Exposure Controls No information available.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	Viscous liquid	Appearance	Blue or Clear
Odor	Mild Solvent		

<u>Property</u>	<u>Values</u>	<u>Remarks/ - Method</u>
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
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Relative Density	1.30	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	

9.2. Other information

VOC Content (%)	27
VOC (g/l)	356
Flammability Limits in Air	No data available

Section 10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Incompatible products. Heat, flames and sparks.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon dioxide (CO₂). Carbon monoxide (CO). Sulfur oxides.

Section 11. Toxicological information

11.1. Information on toxicological effects**Acute Toxicity****Product Information****Inhalation**

There is no data available for this product.

Eye Contact

There is no data available for this product.

Skin Contact

There is no data available for this product.

Ingestion

There is no data available for this product.

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

Sensitization

No information available.

Mutagenic Effects

No information available.

Carcinogenic Effects

No information available.

Reproductive Toxicity

Contains a known or suspected reproductive toxin. May damage fertility or the unborn child

Developmental Toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Target Organ Effects

Blood. Central nervous system (CNS). Eyes. Gastrointestinal tract (GI). Kidney. Liver. Respiratory system. Skin.

Aspiration Hazard

No information available.

Section 12. Ecological information**12.1. Toxicity****Ecotoxicity Effects**

Toxic to aquatic life with long lasting effects

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

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential.

Chemical Name	Log Pow
Naphtha (petroleum), heavy aromatic	2.9 - 6.1
Naphthalene	3.3

12.4. Mobility in soil

Adsorbs on soil.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Naphthalene	Group III Chemical		

Section 13. Disposal considerations

13.1. Waste treatment methods**Waste from Residues / Unused Products**

Dispose of in accordance with local regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 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.

IMDG/IMO**14.1. UN-Number**

UN3082

14.2. Proper Shipping Name

Environmentally hazardous substance, liquid, n.o.s.

14.3. Hazard Class

9

14.4. Packing Group

III

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

14.5. Marine Pollutant

None.

Environmental hazard

yes

14.6. Special Provisions

None.

EmS No.

F-A, S-F

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

RID**14.1. UN-Number**

UN3082

14.2. Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
14.3. Hazard Class	9
14.4. Packing Group	III
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
14.5. Environmental hazard	yes
14.6. Special Provisions	None.
Classification Code	M6

ADR

14.1. UN-Number	UN3082
14.2. Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
14.3. Hazard Class	9
14.4. Packing Group	III
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, (E)
14.5. Environmental hazard	yes
14.6. Special Provisions	None.
Classification Code	M6
Tunnel Restriction Code	(E)

ICAO

14.1. UN-Number	UN3082
14.2. Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
14.3. Hazard Class	9
14.4. Packing Group	III
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
14.5. Environmental hazard	yes
14.6. Special Provisions	None.

IATA

14.1. UN-Number	UN3082
14.2. Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
14.3. Hazard Class	9
14.4. Packing Group	III
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
14.5. Environmental hazard	yes
14.6. Special Provisions	None.
ERG Code	9L

Section 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment

No information available

Section 16. Other information**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed
H411 - Toxic to aquatic life with long lasting effects
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H304 - May be fatal if swallowed and enters airways
H360 - May damage fertility or the unborn child
H360FD - May damage fertility. May damage the unborn child
H351 - Suspected of causing cancer

Key literature references and sources for data

www.ChemADVISOR.com/

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This safety data sheet complies with the requirements of Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No. 1907/2006

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