

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Description: Tenkoz Permethrin 3.2 EC Insecticide

Other means of identification

Item#: 12U-119
UN-No UN1993
Synonyms Not Available
Registration number(s) 70506-9-55467

Recommended use of the chemical and restrictions on use

Recommended use Insecticide.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address

Tenkoz, Inc.
 1725 Windward Concourse
 Suite 410
 Alpharetta, GA 30005

Emergency telephone number

Company Phone Number 770-343-8509
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs)
 Medical: Rocky Mountain Poison Control Center
 (866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin sensitization	Category 1
FLAMMABLE LIQUIDS	Category 3

Label elements

EMERGENCY OVERVIEW

<p>WARNING</p> <p>hazard statements HARMFUL IF SWALLOWED Harmful in contact with skin May cause an allergic skin reaction Flammable liquid and vapor</p>
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**appearance** amber**Physical state** liquid**Odor** Slight Odor**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection
 Do not get in eyes, on skin, or on clothing
 Contaminated work clothing should not be allowed out of the workplace
 Do not spray on an open flame or other ignition source
 Keep only in original container
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/ ? /equipment
 Take precautionary measures against static discharge
 Take precautionary measures against static discharge

Call a POISON CENTER or doctor if you feel unwell
 Wash contaminated clothing before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Causes mild skin irritation
- Very toxic to aquatic life with long lasting effects
- Very toxic to aquatic life

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Permethrin technical	52645-53-1	36.8	
Varsol	8052-41-3	26	
1,2,4-trimethyl benzene	95-63-6	<4	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact	Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Call poison control center or doctor for treatment advice.
Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
Protection of First-aiders	Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects	No information available.
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Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician	Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Contains aromatic hydrocarbons that may produce a severe pneumonitis if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care.
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5. Fire-fighting measures

Suitable extinguishing media

Carbon dioxide (CO₂).

Use: Dry chemical. Water spray. alcohol-resistant foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours.

Hazardous combustion products Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, and other flames and ignition sources at locations distant from material handling point.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. 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. Remove all sources of ignition. Wash thoroughly after handling. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
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Environmental Precautions

Environmental precautions	Consult a regulatory specialist to determine appropriate state or local reporting
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requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Ground and bond containers when transferring material. Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin and eyes. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Keep in a dry, cool and well-ventilated place.

incompatible materials Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL
Varsol	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m ³

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles.

Skin protection Wear protective gloves/clothing. Socks and footwear.

Respiratory protection Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full face piece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	liquid	Odor	Slight Odor
appearance	amber		

color No information available

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ • Method</u>
pH	4.9	
Melting point/freezing point	5.9 °C / 43 °F	
Boiling Point/Range	No information available	
Flash Point	44 °C / 111 °F	
Evaporation Rate	No information available	
flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	1.039 @20 C	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
density	No information available
Bulk density	8.65 lb/gal

10. Stability and Reactivity

Reactivity

no data available

Chemical stability

Stable under normal conditions. Hazardous polymerisation does not occur.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization Hazardous polymerisation does not occur.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Carbon oxides.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information	Tenkoz Permethrin 3.2 EC Insecticide
	Acute oral LD50 1030 mg/kg (rat)
	Acute dermal LD50 >2,000 mg.kg (rabbit)
	Acute inhalation LC50 >25.7 mg/L/4hr(rat)
	Eye irritation Moderately irritating

Skin irritation Moderately irritating
 Dermal sensitization Not a sensitizer

Skin sensitizations are reversible and usually subside within 12 hours. Permethrin contact with skin has rarely produced skin sensitizations such as numbing, burning, and tingling. Large doses of permethrin to laboratory animals have produced symptoms such as diarrhea, salivation, tremors, intermittent convulsions. Overexposure to animals via inhalation has also produced hyperactivity and hypersensitivity.

Permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and the likelihood of oncogenic effects in human is nonexistent or extremely low. Long term feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system, and histopathological changes in the liver and lungs. An overall absence of genotoxicity has been demonstrated in mutagenicity testing with permethrin.

Inhalation May cause respiratory irritation.
Eye contact Moderately irritating to the eyes.
Skin contact Skin exposure may result in rashes, numbing, burning or tingling sensation which is reversible and usually subsides within 12 hours.
Ingestion MAY BE HARMFUL IF SWALLOWED.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,2,4-trimethyl benzene 95-63-6	= 3400 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m ³ (Rat) 4 h

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization No information available.
Mutagenic effects No information available.
Carcinogenicity The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Permethrin technical 52645-53-1	-	Group 3		-

Reproductive effects Not Available.
STOT - Single Exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Avoid repeated exposure.
Target organ effects kidney, Respiratory System, EYES, skin, Central Nervous System (CNS), blood.
Aspiration hazard No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral 1030 mg/kg (rat)
LD50 Dermal > 2000 mg/kg (rabbit)
LC50 Inhalation: Inhalation LC50 > 25.7 mg/l (rat) (4-hr)

12. Ecological Information

Marine Pollutant.

ecotoxicity

Permethrin in soil is stable over a wide range of pH values when applied at agricultural use rates. Permethrin has moderate rate of degradation in soil. At termiticidal use rates, permethrin degrades at a slower rate which is governed by soil characteristics such as soil type, microbial population concentration in soil and aerobic conditions of the soil. Due to its high affinity for organic matter, there is little potential for movement in soil or entry into ground water. Permethrin has a low Pow of 6.1 but a low potential to bioconcentrate (BCF=500) due to the ease with which it is metabolized.

Extremely toxic to fish = 0.05 ug/L to 315 ug/L

Extremely toxic to aquatic arthropods LC50 = 0.02 ug/L to 7.6 ug/L

Marine species are often more sensitive than freshwater species. Bacteria, algae, mollusks and amphibians are much more tolerant of permethrin than the fish and arthropods. Care should be taken to avoid contamination of the aquatic environment. Permethrin is slightly toxic to birds and oral L50 values are greater than 3,600 mg/kg. Longer dietary studies showed that concentrations of up to 500 ppm in the diet had no effect on bird reproduction. Permethrin is extremely toxic to fish, aquatic invertebrates and honey bees.

rainbow trout 96 hr LC50 = 2.5 ug/L

Bluegill sunfish 95 hr LC50 = 1.8 ug/L

Japanese quail LD50 = 23,000 mg/kg

Mallard duck LD50 = 11,257 mg/kg

Persistence/Degradability

No information available.

Bioaccumulation/ Accumulation

Bioaccumulative potential.

Chemical name	Log Pow
Permethrin technical 52645-53-1	6.5
1,2,4-trimethyl benzene 95-63-6	3.63

Other Adverse Effects

No information available

13. Disposal Considerations

Waste Treatment Methods**Waste Disposal Method**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging

Refer to product label.

14. Transport Information

DOT

When shipped domestically IN NON-BULK packages by highway this material is classed as a combustible liquid and as such is not subject to the DOT regulations per 49 CFR 173.150(f) (2)

UN-No

UN1993

Proper shipping name

Flammable liquid, n.o.s (hydrocarbon solvent, 1,2,4-trimethylbenzene)

Hazard class

3

Packing group

PG III

Marine Pollutant

Marine Pollutant.

ICAO

UN-No	UN1993
Proper shipping name	Flammable liquid, n.o.s (hydrocarbon solvent, 1,2,4-trimethylbenzene)
Hazard class	3
Packing group	PG III
Description	Marine Pollutant (Permethrin)

IATA

UN-No	UN1993
Proper shipping name	Flammable liquid, n.o.s (hydrocarbon solvent, 1,2,4-trimethylbenzene)
Hazard class	3
Packing group	PG III
Description	Marine Pollutant (Permethrin)

IMDG/IMO

UN-No	UN1993
Proper shipping name	Flammable liquid, n.o.s (hydrocarbon solvent, 1,2,4-trimethylbenzene)
Hazard class	3
Packing group	PG III
Marine Pollutant	Yes Specified Class 1 Substances PRTR

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION

Ventilation Control PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Restricted Use Pesticide. Keep out of Reach of Children. Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. This product is highly toxic to bees. Toxic to fish and aquatic invertebrates.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ ELINCS	Does not comply
ENCS	Does not comply
China	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply
TSCA	Does not comply

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

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

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

ENCS - Japan Existing and New Chemical Substances

IECS - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

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 40n of the Code of Federal Regulations, Part 372:

Chemical name	SARA 313 - Threshold Values
Permethrin technical - 52645-53-1	1.0
1,2,4-trimethyl benzene - 95-63-6	1.0

SARA 311/312 Hazardous

Categorization

Acute health hazard	yes
Chronic health hazard	yes
Fire hazard	yes
Sudden release of pressure hazard	No
Reactive Hazard	yes

CERCLA

SARA Product RQ 0

RCRA

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Permethrin technical 52645-53-1 (36.8)			X	

State Regulations

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Permethrin technical	X	X		X	
Varsol	X	X	X		
1,2,4-trimethyl benzene	X	X	X	X	

International regulations

U.S. EPA Label information

EPA Pesticide Registration Number 70506-9-55467

16. Other Information

NFPA

HEALTH 1

flammability 2

Instability 0

Physical hazard -

Preparation Date 04-May-2015

Revision date 04-May-2015

Revision Summary

Update to GHS format

End of SDS