

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name M-K-O PLUS AEROSOL
Recommended use Insecticide
Information on Manufacturer
 MANTEK, DIVISION OF NCH CORP.
 BOX 152170
 IRVING, TEXAS 75015

Product Code 5388
Chemical Nature Petroleum distillates
Emergency Telephone Number
 CHEMTREC[®] 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING

Flammable liquid and vapor
 May be harmful if inhaled
 May cause skin irritation
 Causes eye irritation
 May cause allergic skin reaction
 May be harmful if swallowed
 Contents under pressure

Color Colorless**Physical State** Liquid**Odor** Petroleum distillates**Potential Health Effects****Principle Route of Exposure**

Skin contact, Eye contact, Inhalation.

Primary Routes of Entry

Inhalation, Skin Absorption.

Acute Effects**Eyes**

Causes eye irritation.

Skin

May cause skin irritation. May cause allergic skin reaction.

Inhalation

May cause irritation of respiratory tract. Inhalation may cause central nervous system effects. May cause central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard if swallowed - can enter lungs and cause damage. May be fatal if swallowed and enters airways.

Chronic toxicity

Prolonged skin contact may defat the skin and produce dermatitis, May cause sensitization by skin contact.

Target Organ Effects

Respiratory system, Central nervous system, Cardiovascular system, Bone Marrow.

Aggravated Medical Conditions

Respiratory disorders, Skin disorders, Neurological disorders, Heart disease.

Potential Environmental Effects

See Section 12 for additional Ecological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
Carbon Dioxide	124-38-9
Piperonyl butoxide	51-03-6
Permethrin	52645-53-1
Petroleum distillates, hydrotreated light	64742-47-8
Tetramethrin	7696-12-0

4. FIRST AID MEASURES

General Advice

Avoid breathing vapors, mist, or gas. Avoid contact with skin, eyes and clothing.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation develops and persists.

Skin Contact

Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists. Remove contaminated clothing and shoes. Wash contaminated clothing before re-use.

Inhalation

If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion

Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

Notes to Physician

Aspiration hazard if swallowed - can enter lungs and cause damage.

5. FIRE-FIGHTING MEASURES

Flash Point 190°F/88°C**Method**

Seta closed cup

Autoignition Temperature No information available.**Flammability Limits in Air** % Mixture.**Upper** 5.0**Lower** 0.7**Suitable Extinguishing Media**Foam. Dry chemical. Water spray. Carbon dioxide (CO₂). Alcohol-resistant foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.**Specific hazards arising from the chemical**

Solvent vapors are heavier than air and may spread along floors. Vapors may ignite and explode. Material can create slippery conditions. Flame extension: >30 inches / >75 cm and Burnback: 0 inches / 0 cm.

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.

Aerosol Level (NFPA 30B) -

3

NFPA

Health 2

Flammability 3**Instability** 0**HMIS**

Health 2

Flammability 3**Instability** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

Methods for Containment

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to

**Methods for Cleaning Up
Neutralizing Agent**

a container for disposal according to local / national regulations (see section 13).
Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers.
Not applicable.

7. HANDLING AND STORAGE

Handling	Keep away from open flames, hot surfaces and sources of ignition. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.
Storage	Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.
Storage Temperature	Minimum 35°F/2°C Maximum 120°F/49°C
Storage Conditions	Indoor X Outdoor Heated Refrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH
Carbon Dioxide	: 30000 ppm STEL : 5000 ppm TWA	: 5000 ppm TWA; 9000 mg/m ³ TWA	: 40000 ppm IDLH : 5000 ppm TWA; 9000 mg/m ³ TWA 30000 ppm STEL; 54000 mg/m ³ STEL
Piperonyl butoxide	No data available	No data available	No data available
Permethrin	No data available	No data available	No data available
Petroleum distillates, hydrotreated light	5 mg/m ³ as oil mist	10 mg/m ³ as oil mist	No data available
Tetramethrin	No data available	No data available	No data available

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection
Skin Protection
Respiratory Protection

Safety glasses with side-shields.

Wear suitable protective clothing, Impervious gloves.

In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General Hygiene Considerations

Ensure that eyewash stations and safety showers are close to the workstation location. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Viscosity	Non viscous
Color	Colorless	Odor	Petroleum distillates
Appearance	Transparent	pH	Not applicable
Specific Gravity	0.706	Bulk Density (lb/cu ft)	7.59
Evaporation Rate	59.62 (Butyl acetate=1)	Percent Volatile (Volume)	99.5
VOC Content (%)	0	VOC Content (g/L)	0
Vapor Pressure	5641 mmHg @ 70°F	Vapor Density	1.5 (Air = 1.0)
Solubility	Negligible	Boiling Point/Range	421°F/216°C

10. STABILITY AND REACTIVITY**Chemical Stability**

Stable. Hazardous polymerization does not occur.

Conditions to Avoid

Heat, flames, and sparks

Incompatible Products

Strong oxidizing agents

Hazardous Decomposition Products

Carbon oxides, Nitrogen oxides (NOx).

Possibility of Hazardous Reactions

None under normal processing.

11. TOXICOLOGICAL INFORMATION**Product Information**

No information available.

Component Information**Acute toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Carbon Dioxide	no data available	no data available	no data available	no data available	no data available
Piperonyl butoxide	= 6150 mg/kg (Rat)	> 7950 mg/kg (Rat)	no data available	no data available	no data available
Permethrin	= 383 mg/kg (Rat)	> 2 g/kg (Rabbit) = 1750 mg/kg (Rat)	no data available	no data available	no data available
Petroleum distillates, hydrotreated light	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h	no data available	no data available
Tetramethrin	= 4640 mg/kg (Rat)	> 2500 mg/kg (Rat)	no data available	no data available	no data available

Chronic toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Carbon Dioxide	no data available	no data available	no data available	no data available	respiratory system, CVS
Piperonyl butoxide	no data available	no data available	no data available	no data available	CNS, lungs, liver
Permethrin	no data available	no data available	no data available	no data available	CNS
Petroleum distillates, hydrotreated light	no data available	no data available	no data available	no data available	CNS, cardiovascular system, respiratory system
Tetramethrin	no data available	skin sensitization	no data available	no data available	bone marrow, CNS

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Carbon Dioxide	not applicable				
Piperonyl butoxide	not applicable				
Permethrin	not applicable				
Petroleum distillates, hydrotreated light	not applicable				
Tetramethrin	not applicable				

12. ECOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Carbon Dioxide	no data available	no data available	no data available	no data available	N/A
Piperonyl butoxide	no data available	no data available	no data available	no data available	N/A
Permethrin	no data available	0.001-0.009 mg/L Pimephales promelas 96 h 0.008-0.03 mg/L Pimephales promelas 96 h = 0.00079 mg/L Lepomis macrochirus 96 h 0.0052-0.0077 mg/L Cyprinus carpio 96 h = 0.0108 mg/L Lepomis macrochirus 96 h = 0.015 mg/L Cyprinus carpio 96 h 0.00049-0.00097 mg/L Oncorhynchus mykiss 96 h 0.0017-0.0048 mg/L Oncorhynchus mykiss 96 h 0.00188-0.00336 mg/L Lepomis macrochirus 96 h	no data available	no data available	N/A
Petroleum distillates, hydrotreated light	no data available	= 2.4 mg/L Oncorhynchus mykiss 96 h = 45 mg/L Pimephales promelas 96 h = 2.2 mg/L Lepomis macrochirus 96 h	no data available	= 4720 mg/L 96 h	N/A
Tetramethrin	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal

Dispose of as hazardous waste in compliance with local and national regulations.

Container Disposal

Contents under pressure. Do not puncture. Empty remaining contents. Empty containers should be taken for local recycling, recovery, or waste disposal.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Consumer commodity
Hazard Class ORM-D
Description Consumer commodity ,ORM-D.

TDG

Proper shipping name Aerosols
Hazard Class 2.1
UN-No UN1950
Description AEROSOLS,2.1,UN1950

ICAO

UN-No UN1950
Proper Shipping Name Aerosols
Hazard Class 2.1
Shipping Description Aerosols,UN1950

IATA

UN-No UN1950
Proper Shipping Name Aerosols, flammable
Hazard Class 2.1
ERG Code 10L
Shipping Description UN1950,Aerosols, flammable,2.1

IMDG/IMO

Proper Shipping Name Aerosols
Hazard Class 2
UN-No UN1950
EmS No. F-D, S-U
Shipping Description UN1950, Aerosols,2

15. REGULATORY INFORMATION

Inventories

TSCA Complies
DSL Complies

U.S. 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

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Piperonyl butoxide	51-03-6	0.1-1	1.0 % de minimis concentration
Permethrin	52645-53-1	0.1-1	1.0 % de minimis concentration
Tetramethrin	7696-12-0	0.1-1	1.0 % de minimis concentration

SARA 311/312 Hazardous Categorization

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

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Carbon Dioxide	Not applicable	Not applicable
Piperonyl butoxide	Not applicable	Not applicable
Permethrin	Not applicable	Not applicable
Petroleum distillates, hydrotreated light	Not applicable	Not applicable
Tetramethrin	Not applicable	Not applicable

Canada

This product may not be commercially placed on the market in Canada

WHMIS Hazard Class

Not applicable

16. OTHER INFORMATION

Prepared By Dan Hollas
 Supersedes Date 08/27/2008
 Issuing Date 11/03/2010
 Reason for Revision No information available.
 Glossary No information available.
 List of References. No information available.

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