SAFETY DATA SHEET

1. Identification

Product identifier **Pyrethrum Extract**

Other means of identification

Catalog number 1585505

Recommended use Specified quality tests and assay use only.

Recommended restrictions Not for use as a drug. Not for administration to humans or animals.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	U. S. Pharmacopeia	
Address	12601 Twinbrook Parkway Rockville MD 20852-1790 United States	
Telephone	RS Technical Services	301-816-8129
Website	www.usp.org	
E-mail	RSTECH@usp.org	
Emergency phone number	CHEMTREC within US & Canada	1-800-424-9300
	CHEMTREC outside US & Canada	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2B

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Combustible liquid. Toxic if swallowed. Toxic in contact with skin. Causes eye irritation. Toxic if inhaled.

Precautionary statement

Prevention Keep away from flames and hot surfaces-No smoking. Avoid breathing vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor. If on skin: Wash with plenty of water. Call a poison center/doctor if you feel unwell. Take off immediately all contaminated clothing and wash it before reuse. If swallowed: Immediately call a poison center/doctor. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media for extinction.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Not classified.

Other hazards which do not result in classification None known.

3. Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Hydrotreated Kerosene		64742-47-8	50
Pyrethrum		8003-34-7	50

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.

Skin contact
Take off immediately all contaminated clothing. Wash off with soap and plenty of water. For minor skin contact, avoid spreading material on unaffected skin. Call a POISON CENTER or doctor/physician if you feel unwell. Get medical attention if irritation develops and persists.

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed
Irritation of eyes and mucous membranes. Dizziness. Coughing.

Indication of immediate medical attention and special treatment needed
Treatment of overdose should be symptomatic and supportive and may include the following: DO NOT induce vomiting. Monitor for hypersensitivity and respiratory distress. Provide airway management if needed. Treat hypersensitivity reactions with antihistamines, inhaled beta agonists, corticosteroids, and epinephrine. For seizures, administer intravenous benzodiazepine. If seizures recur, consider phenobarbital. Monitor for hypotension, dysrhythmias, respiratory depression, and need for endotracheal intubation. Evaluate for hypoglycemia, electrolytes disturbances, and hypoxia. [Meditext]

General information
Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
By heating and fire, harmful vapors/gases may be formed.

Special protective equipment and precautions for firefighters
Wear suitable protective equipment. Use protective equipment appropriate for surrounding materials.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid inhalation of vapors. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up
Remove sources of ignition. Absorb spillage with suitable absorbent material. For waste disposal, see section 13 of the SDS. Clean surface thoroughly to remove residual contamination. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

7. Handling and storage

Precautions for safe handling
As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly.

Conditions for safe storage, including any incompatibilities
Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Pyrethrum (CAS 8003-34-7)	PEL	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrotreated Kerosene (CAS 64742-47-8)	TWA	100 mg/m3
Pyrethrum (CAS 8003-34-7)	TWA	5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Pyrethrum (CAS 8003-34-7)	TWA	5 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Airborne exposure should be controlled primarily by engineering controls such as general dilution ventilation, local exhaust ventilation, or process enclosure. Local exhaust ventilation is generally preferred to general exhaust because it can control the contaminant at its source, preventing dispersion into the work area. An industrial hygiene survey involving air monitoring may be used to determine the effectiveness of engineering controls. Effectiveness of engineering controls intended for use with highly potent materials should be assessed by use of nontoxic surrogate materials. Local exhaust ventilation such as a laboratory fume hood or other vented enclosure is recommended, particularly for aerosol-generating procedures.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses with sideshields are recommended. Face shields or goggles may be required if splash potential exists or if corrosive materials are present. Approved eye protection (e.g., bearing the ANSI Z87 or CSA stamp) is preferred. Maintain eyewash facilities in the work area.

Skin protection

Hand protection Chemically compatible gloves. For handling solutions, ensure that the glove material is protective against the solvent being used. Use handling practices that minimize direct hand contact. Employees who are sensitive to natural rubber (latex) should use nitrile or other synthetic nonlatex gloves. Use of powdered latex gloves should be avoided due to the risk of latex allergy.

Other For handling of laboratory scale quantities, a cloth lab coat is recommended. Where significant quantities are handled, work clothing may be necessary to prevent take-home contamination.

Respiratory protection Where respirators are deemed necessary to reduce or control occupational exposures, use NIOSH-approved respiratory protection and have an effective respirator program in place (applicable U.S. regulation OSHA 29 CFR 1910.134).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance Pale yellow liquid.

Physical state Liquid.

Form Liquid.

Odor Bland, flowery odor.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point 169.0 °F (76.1 °C) (TCC)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility in water Insoluble.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	50 %
Solubility (other)	Soluble in most organic solvents.
Specific gravity	0.95

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Risk of ignition.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames, and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Toxic if swallowed.
Inhalation	Toxic by inhalation.
Skin contact	Toxic in contact with skin.
Eye contact	Causes eye irritation.
Symptoms related to the physical, chemical, and toxicological characteristics	Irritation of nose and throat. Coughing. Burning or tingling sensations. Itching. Headache. Dizziness. Nausea. Vomiting. Diarrhea. Excitement.
Delayed and immediate effects of exposure	Paralysis. Ringing in ears. Convulsions. Central nervous system effects.
Cross sensitivity	Persons sensitive to ragweed pollen may be sensitive to pyrethrins as well.
Medical conditions aggravated by exposure	Respiratory disorders.
Acute toxicity	Toxic by inhalation. Toxic if swallowed. Toxic in contact with skin.

Components	**Species**	**Test Results**
Hydrotreated Kerosene (CAS 64742-47-8)		
Acute		
Dermal		
Liquid		
LD50	Rabbit	> 2 g/kg
Inhalation		
LC50	Rat	> 5.2 g/kg, 4 hours
Oral		
Liquid		
LD50	Rat	> 5 g/kg
Pyrethrum (CAS 8003-34-7)		
Acute		
Inhalation		
LC50	Rat	3.4 mg/l, 4 Hours
Oral		
LD50	Mouse	370 mg/kg
	Rat	200 mg/kg

Skin corrosion/irritation	Due to lack of data the classification is not possible.
Serious eye damage/eye irritation	Causes eye irritation.

Local effects

Pyrethrum	Eye irritation Result: Mild irritation. Species: Rabbit

Respiratory or skin sensitization

Respiratory sensitization Due to lack of data the classification is not possible.

Skin sensitization Due to lack of data the classification is not possible.

Skin sensitization

Pyrethrum	Sensitization test Result: Non-sensitizing. Species: Guinea pig

Germ cell mutagenicity Due to lack of data the classification is not possible. Data from germ cell mutagenicity tests were not found.

Mutagenicity

Pyrethrum	Bacterial reversion test (Salmonella) Result: Negative.
Hydrotreated Kerosene	Genotoxicity (cultured mammalian cells, bacteria) Result: Negative for mutations. In vitro chromosomal aberrations (rat bone marrow) Result: Negative.

Carcinogenicity Due to lack of data the classification is not possible.

Pyrethrum	173 mg/kg/day Life-time study (females) Result: Hepatocellular adenomas and carcinomas. Species: Rat 42.9 mg/kg/day Life-time study (males) Result: Liver and thyroid tumors. Species: Rat
Hydrotreated Kerosene	79-Week study (topical exposure) Result: Increased incidence of skin tumors which may be secondary to irritation. Species: Mouse
Pyrethrum	850 mg/kg/day Carcinogenicity study Result: No evidence of carcinogenicity. Species: Mouse

Reproductive toxicity Due to lack of data the classification is not possible.

Reproductivity

Pyrethrum	150 mg/kg Reproductive study Result: Increased resorptions and embryotoxicity but no increase in birth defects. Species: Rat 240 mg/kg/day Two-generational study (pyrethrins) Result: No adverse reproductive effects. Species: Rat

Specific target organ toxicity - single exposure Due to lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure Due to lack of data the classification is not possible.

Aspiration hazard Due to lack of data the classification is not possible.

12. Ecological information

Ecotoxicity Components of this product are hazardous to aquatic life.

Components		Species	Test Results
Hydrotreated Kerosene (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
Pyrethrum (CAS 8003-34-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia)	0.018 - 0.032 mg/l, 48 hours
Fish	LC50	Brown trout (Salmo trutta)	0.0165 - 0.0229 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Mobility in soil Not available.

Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
Local disposal regulations	Not available.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN2588
UN proper shipping name	Pesticide, liquid, toxic, n.o.s (Pyrethrum Extract)
Transport hazard class(es)	
Class	6.1
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	Yes
Packaging exceptions	153
Packaging non bulk	203
Packaging bulk	241

IATA

UN number	UN2588
UN proper shipping name	Pesticide, liquid, toxic, n.o.s. (Pyrethrum Extract)
Transport hazard class(es)	
Class	6.1
Subsidiary risk	-
Packing group	III
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

DOT; IATA

Marine pollutant

General information	DOT Regulated Marine Pollutant. IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations One or more components are not listed on TSCA.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 01-31-2008

Revision date 10-05-2015

Version # 04

Further information Not available.

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Revision Information

Hazard(s) identification: Hazard statement
Toxicological Information: Toxicological Data
Transport Information: Material Transportation Information
Regulatory information: California Prop 65
Regulatory information: US state regulations
GHS: Classification