



Safety Data Sheet

Permanna®

1. Identification

PRODUCT IDENTIFIER

Product Identity Permanna®

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended use See Technical Data Sheet.

Application Method See Technical Data Sheet.

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company Name Refined Technologies, Inc.
P.O. Box 132196
The Woodlands, Texas 77393

Contact information 888-634-3183
EMERGENCY TELEPHONE NUMBER PERS: (800) 633-8253

2. Hazard(s) Identification

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Skin Irrit. 2;H315 Causes skin irritation.
Eye Irrit. 2;H319 Causes serious eye irritation.

LABEL ELEMENTS

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Warning

H315 Causes skin irritation.

H319 Causes serious eye irritation.

[Prevention]:

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection

[Response]:



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P302+352 IF ON SKIN: Wash with plenty of soap and water.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P321 Specific treatment (see information on this label).

P332+313 If skin irritation occurs: Get medical advice / attention.

P337+313 If eye irritation persists: Get medical advice / attention.

P362 Take off contaminated clothing and wash before reuse.

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

3. Composition/Information on Ingredients

MIXTURE

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Sodium permanganate CAS Number: Proprietary	1.0 - 10	Ox. Sol. 2;H272 Acute Tox. 4;H302 Skin Corr. 1B;H314 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	[1]

In accordance with paragraph (I) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

DESCRIPTION OF FIRST AID MEASURES

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.



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Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Overview **Skin Contact:** Momentary contact at room temperature may be irritation to the skin, leaving brown stains. Prolonged contact could be damaging to the skin.

Ingestion: If swallowed may cause burns to the mucus membranes of the mouth, throat, esophagus, and stomach.
See section 2 for further details.

Eyes Causes serious eye irritation.

Skin Causes skin irritation.

5. Fire-Fighting Measures

FLAMMABILITY

Flammability Non-flammable by OSHA criteria

EXTINGUISHING MEDIA

Large quantities of water. Water will turn pink to purple when in contact. Dike to contain. Do not use dry chemicals, CO₂, Halon or foam.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous decomposition: May form corrosive fumes in fire. Oxidizing material. May decompose spontaneously if exposed to heat (275F). May be explosive in contact with certain other chemicals. May react violently with finely divided and readily oxidizable substances. Increases burning rate of combustible material.

ADVICE FOR FIRE-FIGHTERS

Wear protective gloves, boots, goggles and respirator. In case of fire, wear positive pressure breathing apparatus. Approach incident with caution. If material is involved in fire, flood with water. Cool all affected containers with large quantities of water. Apply water from as far a distance as possible. Wear self-contained breathing apparatus and full protective clothing.

ERG Guide No. 140

6. Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Put on appropriate personal protective equipment (see section 8).

ENVIRONMENTAL PRECAUTIONS



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Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.

Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations. (See section 13).

Clean, preferably with a detergent. Do not use solvents.

Contains spill. Dilute to approximately 6% with water and then reduce with sodium thiosulfate, a bisulfite, or ferrous salt solution. The bisulfite or ferrous salt may require some dilute sulfuric acid (10%w/w) to promote reduction. Neutralize with sodium carbonate to neutral pH, if acid was used. Decant or filter and deposit sludge in approved landfill. Where permitted, the sludge may be drained into the sewer with large quantities of water.

7. Handling and Storage

PRECAUTIONS FOR SAFE HANDLING

Store in accordance with NFPA 430 requirements for Class II oxidizers. Protect containers from physical damage. Store in a cool, dry place. Segregate from acids, peroxides, formaldehyde and all combustible, organic or easily oxidizable materials.

See section 2 for further details. - [Prevention]:

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Handle containers carefully to prevent damage and spillage.

Incompatible materials: Acids, peroxides, formaldehyde and all readily oxidizable materials, including metals powders. With hydrochloric acid toxic chlorine gas is liberated.

See section 2 for further details. - [Storage]:

8. Exposure Controls and Personal Protection

CONTROL PARAMETERS

Exposure

No established chemicals at levels which require reporting for this product.

Carcinogen Data

No established chemicals at levels which require reporting for this product.

EXPOSURE CONTROLS

Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes

Goggles, safety glasses with side shields or face shields should be worn.



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Skin	Wear normal work clothing covering arms and legs. If clothing becomes contaminated remove and wash. Wear nitrile gloves.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse. Ensure safety showers and eye wash stations are easily accessible in work station.

See section 2 for further details. - [Prevention]:

9. Physical and Chemical Properties

Appearance	Dark Purple Liquid
Odor	Odorless
Odor threshold	Not Measured
pH	6-9
Melting point / freezing point	Liquid @25°C
Initial boiling point and boiling range	>101°C
Flash Point	Not Measured
Evaporation rate	1 (H ₂ O=1)
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	1.16 (H ₂ O=1)
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
Explosive Properties	Potentially explosive in contact with sulfuric acid or peroxides, or readily oxidizable substances
Oxidizing Properties	Oxidizer



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10. Stability and Reactivity

REACTIVITY

Hazardous Polymerization will not occur.

CHEMICAL STABILITY

Stable under normal circumstances.

POSSIBILITY OF HAZARDOUS REACTIONS

No data available.

CONDITIONS TO AVOID

Contact with incompatible materials or heat (275°F).

INCOMPATIBLE MATERIALS

Acids, peroxides, formaldehyde and all readily oxidizable materials, including metals powders. With hydrochloric acid toxic chlorine gas is liberated.

HAZARDOUS DECOMPOSITION PRODUCTS

May form corrosive fumes in fire. Oxidizing material. May decompose spontaneously if exposed to heat (275°F). May be explosive in contact with certain other chemicals. May react violently with finely divided and readily oxidizable substances. Increases burning rate of combustible material.

11. Toxicological Information

ACUTE TOXICITY

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization	---	Not Applicable



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Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological Information

TOXICITY

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and GHS and is not classified as dangerous for the environment, but contains substance(s) dangerous for the environment. See section 3 for details

AQUATIC ECOTOXICITY

PERSISTENCE AND DEGRADABILITY

There is no data available on the preparation itself.

BIOACCUMULATIVE POTENTIAL

Not Measured

MOBILITY IN SOIL

No data available.

RESULTS OF PBT AND vPvB ASSESSMENT

This product contains no PBT/vPvB chemicals.

OTHER ADVERSE EFFECTS

No data available.

13. Disposal Considerations

WASTE TREATMENT METHODS

Observe all federal, state and local regulations when disposing of this substance.



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14. Transport Information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
UN NUMBER	UN3214	UN3214	UN3214
UN PROPER SHIPPING NAME	UN3214, Permanganates, inorganic, aqueous solution, n.o.s., (CHEMICAL NAME), 5.1, II	Permanganates, inorganic, aqueous solution, n.o.s., (CHEMICAL NAME)	Permanganates, inorganic, aqueous solution, n.o.s., (CHEMICAL NAME)
TRANSPORT HAZARD CLASS(ES)	DOT Hazard Class: 5.1	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
PACKING GROUP	II	II	II

ENVIRONMENTAL HAZARDS

IMDG Marine Pollutant: No

SPECIAL PRECAUTIONS FOR USER

No further information

15. Regulatory Information

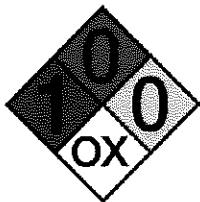
REGULATORY OVERVIEW

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

TOXIC SUBSTANCE CONTROL ACT (TSCA)

All components of this material are either listed or exempt from listing on the TSCA Inventory.

NFPA / HMIS RANKINGS



WHMIS CLASSIFICATION D2B

US EPA TIER II HAZARDS

Fire: No

Sudden Release of Pressure: No

Reactive: No

Immediate (Acute): Yes

Delayed (Chronic): No



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EPCRA 311/312 CHEMICALS AND RQS:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 EXTREMELY HAZARDOUS:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 TOXIC CHEMICALS:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - CARCINOGENS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - DEVELOPMENTAL TOXINS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - FEMALE REPRO TOXINS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - MALE REPRO TOXINS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

NEW JERSEY RTK SUBSTANCES (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PENNSYLVANIA RTK SUBSTANCES (>1%) :

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

16. Other Information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

This is the second version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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