

MATERIAL SAFETY DATA SHEET

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Paper Technologies and Ventures
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1 PRODUCT IDENTIFICATION

PRODUCT NAME HERCULES® IMPROVED TECHNICAL PE 200
CHEMICAL/COMMON NAME pentaerythritol, technical
CAS NUMBER 115-77-5

2 COMPOSITION / INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredient	CASRN	Amount
pentaerythritol	115-77-5	86 - 90 %

If this product is used in a manner that might liberate its chemically-bound formaldehyde, refer to MSDS Section 8: Exposure Controls/Personal Protection.

3 HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**
WARNING!

Static charges generated by emptying package in or near flammable vapors may cause flash fire.
May form flammable dust-air mixtures.
May cause eye irritation by mechanical abrasion.
May cause skin irritation by mechanical abrasion.
Inhalation of dust may cause respiratory tract irritation.

Refer to Section 5 for Hazardous Combustion Products, and Section 10 for Hazardous Decomposition/Hazardous Polymerization Products.

4 FIRST AID MEASURES**SKIN**

Wash with soap and water. Get medical attention if irritation develops or persists.

EYE

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get medical attention if irritation persists.

INHALATION

Remove to fresh air. Get medical attention if nasal, throat or lung irritation develops.

INGESTION

No adverse health effects are expected from accidental ingestion of small amounts of this product. For ingestion of large amounts: Do NOT induce vomiting. Get immediate medical attention.

5 FIRE FIGHTING MEASURES**EXTINGUISHING MEDIA**

Water spray, dry chemical, foam, carbon dioxide or clean extinguishing agents may be used on fires involving this product.

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FIRE FIGHTING PROCEDURES

Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear when fighting fires involving this product.

CONDITIONS TO AVOID

None known.

HAZARDOUS COMBUSTION PRODUCTS

Combustion products include: carbon monoxide , carbon dioxide , formaldehyde , acrolein and aldehydes

6 ACCIDENTAL RELEASE MEASURES

Ventilate area. Avoid dust formation. If product is not contaminated, scoop into clean containers for use. If product is contaminated, scoop into containers, and dispose appropriately. In case of accidental spill or release, refer to Section 8, Personal Protective Equipment and General Hygiene Practices.

7 HANDLING & STORAGE

GENERAL MEASURES

Ground all equipment.

Blanket vessel with inert gas when emptying bags where flammable vapors may be present.

Ground operator and pour material slowly into conductive, grounded chute.

Store in a cool, dry, well-ventilated area at approximately 20° C (68° F).

Keep container closed when not in use.

MATERIALS OR CONDITIONS TO AVOID

Avoid conditions that generate dust; product may form flammable dust-air mixtures.

Avoid emptying package in or near flammable vapors; static charges may cause flash fire.

Keep away from heat, flame, sparks and other ignition sources.

Avoid storing product near incompatible materials. See MSDS Section 10.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

WORK PRACTICES & ENGINEERING CONTROLS

Eyewash fountains and safety showers should be easily accessible.

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Discharge from the ventilation system should comply with applicable air pollution control regulations.

If this product is to be used under conditions which might generate formaldehyde, such as acid hydrolysis and/or elevated temperature, a monitoring program should be established.

GENERAL HYGIENIC PRACTICES

Avoid contact with eyes, skin, and clothing.

Avoid breathing dust.

Handle in areas with adequate ventilation.

Avoid contamination of food, beverages, or smoking materials.

Wash thoroughly after handling, and before eating, drinking or smoking.

Remove contaminated clothing promptly and clean thoroughly before reuse.

RECOMMENDED EXPOSURE LIMITS

FORMALDEHYDE: If this product is used in a manner that could liberate its chemically-bound formaldehyde, the OSHA TWA of 0.75 ppm and ACGIH TWA of 0.3 ppm should be observed.

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

pentaerythritol 10 mg/m3 TWA

U.S. - OSHA - Vacated PELs - TWAs

pentaerythritol 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

PERSONAL PROTECTIVE EQUIPMENT

Safety glasses

Impervious gloves

Appropriate protective clothing

Appropriate respiratory protection is required when exposure to airborne contaminants may exceed acceptable limits. Respirators should be selected and used in accordance with OSHA, Subpart I (29 CFR 1910.134) and manufacturers recommendations.

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PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE

Eliminate ignition sources and prevent build-up of static electrical charges.

Completely isolate and thoroughly clean all equipment, piping, or vessels before beginning maintenance or repairs.

Keep area clean.

9 PHYSICAL & CHEMICAL PROPERTIES

PHYSICAL STATE: crystals, free-flowing powder

COLOR: white

ODOR: odorless

Percent Volatile negligible at 68° F

Solubility In Water soluble

Bulk Density 1.396 g/cm³ at 68° F

10 STABILITY & REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS

None known.

HAZARDOUS POLYMERIZATION

Not anticipated under normal or recommended handling and storage conditions.

GENERAL STABILITY CONSIDERATIONS

Stable under recommended handling and storage conditions.

INCOMPATIBLE MATERIALS

Incompatible with: oxidizing agents

11 TOXICOLOGICAL INFORMATION

CARCINOGENICITY INFORMATION

Not listed as a carcinogen by NTP. Not regulated as a carcinogen by OSHA. Not evaluated by IARC. Product typically contains minor amounts of formals which may yield formaldehyde under certain use conditions.

COMPONENT - formaldehyde: Regulated as a carcinogen by OSHA. Gas is listed on NTP list of carcinogens. Gas has been determined to be carcinogenic in animals by IARC. Controversial epidemiology studies of exposed workers have indicated little or no additional cancer risk related to exposure.

REPORTED HUMAN EFFECTS

PRODUCT/SIMILAR PRODUCT - No effects at a single oral dose of 50 grams (approx. 2 oz.), the highest dose reported. Due to the physical nature of this material, may cause eye, skin and respiratory irritation.

REPORTED ANIMAL EFFECTS

PRODUCT/SIMILAR PRODUCT - Acute oral (rat): > 5 g/kg caused diarrhea; (mouse): > 15 g/kg caused central nervous system effects. Eye irritation (rabbit, 50% aqueous suspension): minimal temporary irritation. Doses of 10 g/kg applied as a paste to rabbits skin did not cause any clinical signs of toxicity. Doses of up to 2.5 g/kg/day in the diet caused only diarrhea in rats. No adverse effects were seen upon inhalation exposure of animals to 8 g/m³ for 90 days.

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

PRODUCT/SIMILAR PRODUCT - Acute aquatic 48-hour static EC50 value, in the Daphnia, falls within the relatively harmless range of >1000 mg/L, according to U.S. Fish and Wildlife criteria.

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13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Landfilling in a permitted solid or hazardous waste facility is recommended. Handling, transportation, and disposal of material should be conducted in a manner to prevent a nuisance dust hazard. Fully containerize the material before handling, and protect from exposure to the outdoors. Ensure there are no restrictions on disposing of bulk or semi-bulk quantities of waste material. Disposal should be in accordance with all Federal, State and local regulations.

14 TRANSPORT INFORMATION

GENERAL

This product is not subject to DOT regulations. For specific information regarding transportation of this product, please call the Hercules representative at (905) 279-3338.

15 REGULATORY INFORMATION

CHEMICAL INVENTORIES

U.S. TSCA: The components of this product are included on the TSCA Inventory.

European EINECS : Included on EINECS list.

Canadian CEPA : Included on DSL Inventory.

SARA TITLE III - SECTIONS 302/304

This product is not an Extremely Hazardous Substance subject to reporting under 40CFR355.

SARA TITLE III - SECTIONS 311 AND 312

HC-1: Acute health hazard

HC-3: Fire hazard

SARA TITLE III - SECTION 313

This product does not contain any chemicals subject to reporting under Section 313 of Title III of the Superfund Amendments and Reauthorization Act and 40CFR372.

CERCLA

This product does not contain any chemicals subject to reporting as a CERCLA Hazardous Substance under 40CFR302.4.

RCRA

It does not exhibit any of the hazardous characteristics listed in 40CFR261, Subpart C. This product is not a hazardous waste as listed in 40CFR261.33.

16 OTHER INFORMATION

HMIS RATINGS:

Health	1	Slight Hazard
Flammability	1	Slight Hazard
Reactivity	1	Slight Hazard

LIST OF ACRONYMS

ACGIH: American Conferences of Governmental Industrial Hygienists
AIHA WEEL: American Industrial Hygienists Association-Workplace Environmental Exposure Level
ANSI: American National Standards Institute
CASRN: Chemical Abstracts Service Registry Number
CEPA: Canadian Environmental Protection Act
CERCLA: Comprehensive Emergency Response, Compensation and Liability Act
DSL: Domestic Substances List (Canadian)
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
NDSL: Non-Domestic Substances List (Canadian)
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit (OSHA)
RCRA: Resource Conservation and Recovery Act
RQ: Reportable Quantity
SARA: Superfund Amendment Reauthorization Act
STEL: Short-Term Exposure Limit
TLV: Threshold Limit Values (registered trademark of ACGIH)
TPQ: Threshold Planning Quantity
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average

DISCLAIMER

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

MSDS STATUS

Supersedes Date
02/27/2007

MSDS Revision(s)
Section 1 (eliminate duplicate product descriptor)

MARKETED BY
**HARWICK STANDARD
DISTRIBUTION CORPORATION**
60 S. Seiberling Street • Akron, Ohio 44305

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