

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 08/24/2010

Reviewed on 08/23/2010

**1 Identification of substance:**

· **Product Name: Patterson Enzyme Tablets**

· **Product Code:** 070909796

· **Application of the substance / the preparation:** Cleaning material/ Detergent

· **Manufacturer/Supplier:**

Patterson Companies, Inc.  
1031 Mendota Heights Road  
St. Paul, MN 55120

Tel: 800.328.5536

Fax: 651.686.9331

www.pattersoncompanies.com

Emergency information:

**24-hour Emergency Response Number:** 800.424.9300

**2 Hazards identification**

· **Hazard description:**



Xn Harmful

· **Information pertaining to particular dangers for man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 42 May cause sensitization by inhalation.

· **Classification system**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

· **NFPA ratings for USA (scale 0-4)**



Health = 2  
Fire = 0  
Reactivity = 0

· **HMS-Ratings (Scale 0-4)**

HEALTH	2
FIRE	0
REACTIVITY	0

Health = \*2  
Fire = 0  
Reactivity = 0

**3 Composition/Data on components:**

· **Chemical characterization**

· **Description:** -

· **Dangerous components:**

	Subtilisin	Xn, Xi; R 37/38-41-42	10-25%
497-19-8	sodium carbonate	Xi; R 36	10-25%

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· **Additional information** For the wording of the listed risk phrases refer to section 16.

#### 4 First aid measures

- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing** Induce vomiting and seek advice of physician.

#### \* 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards caused by the material, its products of combustion or resulting gases:**  
Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:** No special measures required.
- **Additional information -**

#### \* 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:** Dispose contaminated material as waste according to item 13.
- **Additional information:**  
No dangerous substances are released.  
See Section 8 for information on personal protection equipment.

#### 7 Handling and storage

- **Handling**
  - **Information for safe handling:**  
Keep receptacles tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of dust.
  - **Information about protection against explosions and fires:** No special measures required.
- **Storage**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:** None.

#### \* 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**

##### Subtilisin

TLV ()	C 0.00006 mg/m <sup>3</sup>
	(m)

##### 25322-68-3 Polyethylenglycol 400

TLV ()	(average molecular weight 200-600)
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· **Additional information:** The lists that were valid during the creation were used as basis.

· **Personal protective equipment**

· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.

· **Breathing equipment:**

Filter P1.  
Suitable respiratory protective device recommended.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR  
Fluorocarbon rubber (Viton)  
Nitrile rubber, NBR  
Natural rubber, NR  
Chloroprene rubber, CR

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

PVC or PE gloves

· **Eye protection:** Protective goggles are recommended.

· **Body protection:** Light weight protective clothing

**9 Physical and chemical properties:**

· **General Information**

· **Form:** Solid.  
· **Color:** Whitish  
· **Odor:** Nearly odorless

· **Change in condition**

· **Melting point/Melting range:** undetermined  
· **Boiling point/Boiling range:** undetermined

· **Flash point:** Not applicable

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined

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- **Solubility in / Miscibility with**
- **Water:** Soluble

### 10 Stability and reactivity

- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** none

### 11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**Subtilisin**

Oral | LD50 | 2000 mg/kg (rat)

- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through inhalation.
- **Additional toxicological information:**

Harmful  
Irritant

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

### 12 Ecological information:

- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### 13 Disposal considerations

- **Product:**
  - **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
  - **Recommendation:** Packaging can be reused or recycled after cleaning.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **DOT regulations:**
  - **Hazard class:** -
- **Land transport ADR/RID (cross-border)**
  - **ADR/RID class:** -
- **Maritime transport IMDG:**
  - **IMDG Class:** -

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- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
  - **ICAO/IATA Class:** -
- **Transport/Additional information:** -

**15 Regulations**

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

· **Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Markings according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· **Code letter and hazard designation of product:**

Xn Harmful

· **Hazard-determining components of labelling:**

Subtilisin

· **Risk phrases:**

37/38 Irritating to respiratory system and skin.

41 Risk of serious damage to eyes.

42 May cause sensitization by inhalation.

· **Safety phrases:**

22 Do not breathe dust.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

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**Trade name: Patterson Enzyme Tablets****16 Other information:**

*These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**Relevant R-phrases**

- 36 Irritating to eyes.
- 37/38 Irritating to respiratory system and skin.
- 41 Risk of serious damage to eyes.
- 42 May cause sensitization by inhalation.

# SAFETY DATA SHEET

## SECTION 1 : IDENTIFICATION

### Product identifier used on the label:

Product Name: **Patterson Brand Multi-Purpose Enzyme Tablets**  
Product Code: 090-9796  
MSDS Manufacturer Number: G064

### Other means of identification:

Synonyms: Not applicable

### Recommended use of the chemical and restrictions on use:

Product Use/Restriction: General purpose ultrasonic cleaner.

### Chemical manufacturer address and telephone number:

Manufacturer Name: Patterson Dental Company  
Address: 1031 Mendota Heights  
St. Paul, MN 55120  
USA  
Website: [www.pattersoncompanies.com](http://www.pattersoncompanies.com)  
General Phone Number: (800) 328-5536

### Emergency phone number:

Emergency Phone Number: Chemtrec 1-800-424-9300

## SECTION 2 : HAZARD(S) IDENTIFICATION

### Classification of the chemical in accordance with A\$1910.1200(d)(f):

#### GHS Pictograms:



Signal Word: **DANGER.**

GHS Class: Serious Eye Damage. Category 1.  
Flammable Liquid. Category 3.

Hazard Statements: H318 - Causes serious eye damage.  
H226 - Flammable liquid and vapour.

Precautionary Statements:

- P210 - Keep away from heat/sparks/open flames/hotsurfaces. — No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground/Bond container and receiving equipment.
- P241 - Use explosion-proof electrical/ventilating/lighting equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER or doctor/physician.
- P370+P378 - In case of fire: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.
- P403+P235 - Store in a well-ventilated place. Keep cool.
- P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Hazards not otherwise classified that have been identified during the classification process:

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Corrosive. Will cause eye burns and permanent tissue damage.

Skin: Severely irritating; may cause permanent skin damage.

Inhalation: May cause severe respiratory system irritation.

Ingestion: Harmful if swallowed. Corrosive to the gastrointestinal tract.

Chronic Health Effects: Prolonged skin contact causes burns. Repeated or prolonged inhalation may cause toxic effects.

Signs/Symptoms: Depending on solution concentration, material may be corrosive to skin, mucous membranes and eyes. Vapors may cause respiratory irritation.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

Aggravation of Pre-Existing Conditions: May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

**SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS**

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Isopropyl Alcohol, Technical Grade	67-63-0	1 - 5 by weight	



oda Ash Grade 100	497-19-8	1 - 5 by weight
thoxylated Alcohols Phosphate Ester (C8-10)	68130-47-2	1 - 5 by weight

Notes : The remaining components of this product are non-hazardous or are in a small enough quantity as to not meet regulatory thresholds for disclosure.

## SECTION 4 : FIRST AID MEASURES

### Description of necessary measures:

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 to 20 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers. Remove contacts if present and easy to do. Continue rinsing. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with plenty of soap and water for 15 to 20 minutes, while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
Ingestion:	If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

## SECTION 5 : FIRE FIGHTING MEASURES

### Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.
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### Special protective equipment and precautions for fire-fighters:

Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
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### NFPA Ratings:

NFPA Health:	3
NFPA Flammability:	1

NFPA Reactivity:

2

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

Personnel Precautions: Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Use proper personal protective equipment as listed in section 8.

### Environmental precautions:

Environmental Precautions: Avoid runoff into storm sewers, ditches, and waterways.

### Methods and materials for containment and cleaning up:

Methods for containment: Contain spills with an inert absorbent material such as soil or sand. Prevent from spreading by covering, diking or other means. Provide ventilation.

Methods for cleanup: Clean up spills immediately observing precautions in the protective equipment section. Provide ventilation.

## SECTION 7 : HANDLING and STORAGE

### Precautions for safe handling:

Handling: Corrosive. Use proper personal protective equipment as listed in section 8. Use with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing. Wash hands thoroughly after handling.

Hygiene Practices: Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

### Conditions for safe storage, including any incompatibilities:

Storage: Store in a cool, dry, well ventilated area away from sources of heat, combustible materials, and incompatible substances. Keep container tightly closed when not in use. Keep only in the original, corrosive resistant container and store locked up.

## SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

#### Isopropyl Alcohol, Technical Grade :

Guideline ACGIH: TLV-STEL: 400 ppm  
TLV-TWA: 200 ppm

Guideline OSHA: PEL-TWA: 400 ppm

Appropriate engineering controls:

Engineering Controls:

Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Individual protection measures:

Eye/Face Protection:

Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

Skin Protection Description:

Chemical-resistant gloves and chemical goggles, face-shield and synthetic apron or coveralls should be used to prevent contact with eyes, skin or clothing.

Respiratory Protection:

A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Other Protective:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PPE Pictograms:



## SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State:	Liquid.
Color:	Transparent blue
Odor:	Mild chemical.
Odor Threshold:	Not determined.
Boiling Point:	213°F (101 °C)
Melting Point:	Not determined.
Specific Gravity:	1.06 (Ref: water = 1).
Solubility:	Not determined.
Vapor Density:	Not determined.
Vapor Pressure:	Not determined.
Percent Volatile:	90.5%
Evaporation Rate:	Not determined.
pH:	11.5 - 12.2

Viscosity: Not determined.  
Coefficient of Water/Oil Distribution: Not determined.  
Flammability: Not determined.  
Flash Point: 126 °F (54°C)  
Flash Point Method: Tag Closed Cup (T.C.C).  
Lower Flammable/Explosive Limit: Not determined.  
Upper Flammable/Explosive Limit: Not determined.  
Auto Ignition Temperature: Not determined.  
Oxidizing Properties: Not determined.  
VOC Content: Not determined.

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## SECTION 10 : STABILITY and REACTIVITY

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### Chemical Stability:

Chemical Stability: Stable under normal temperatures and pressures.

### Possibility of hazardous reactions:

Hazardous Polymerization: Will not occur.

### Conditions To Avoid:

Conditions to Avoid: Avoid contact with incompatible materials.

### Incompatible Materials:

Incompatible Materials: Avoid contact with strong acids, metals, such as aluminum and tin.

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## SECTION 11 : TOXICOLOGICAL INFORMATION

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### TOXICOLOGICAL INFORMATION:

#### Isopropyl Alcohol, Technical Grade :

Eye: Administration into the eye - Rabbit Standard Draize test: 100 mg [Severe]  
Administration into the eye - Rabbit Standard Draize test: 10 mg [Moderate]  
Administration into the eye - Rabbit Standard Draize test: 100 mg/24H [Moderate] (RTECS)

Skin: Administration onto the skin - Rabbit LD50 - Lethal dose, 50 percent kill: 12800 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

Inhalation: Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 16000 ppm/8H [Details of toxic effects not reported other than lethal dose value]  
Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 72600 mg/m3 [Behavioral-General anesthetic Lungs, Thorax, or Respiration-Other changes] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 5045 mg/kg [Behavioral-Altered sleep time (including change in righting reflex) Behavioral-Somnolence (general depressed activity)]  
Oral - Rat LD50 - Lethal dose, 50 percent kill: 5000 mg/kg [Behavioral-General anesthetic] (RTECS)

**Soda Ash Grade 100 :**

Eye: Administration into the eye - Rabbit Standard Draize test: 100 mg/24H [Moderate]  
Administration into the eye - Rabbit Rinsed with water: 100 mg/30S [Mild]  
Administration into the eye - Rabbit Standard Draize test: 50 mg [Severe] (RTECS)

Inhalation: Inhalation - Rat LC50 - Lethal concentration, 50 percent kill: 2300 mg/m3/2H [Lungs, Thorax, or Respiration-Dyspnea Gastrointestinal-Other changes] (RTECS)

Ingestion: Oral - Rat LD50 - Lethal dose, 50 percent kill: 4090 mg/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

**SECTION 12 : ECOLOGICAL INFORMATION**

Ecotoxicity:

Ecotoxicity: No ecotoxicity data was found for the product.

Environmental Fate: No environmental information found for this product.

**SECTION 13 : DISPOSAL CONSIDERATIONS**

Description of waste:

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.

**SECTION 14 : TRANSPORT INFORMATION**

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Notes : The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment.

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## SECTION 15 : REGULATORY INFORMATION

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### Safety, health and environmental regulations specific for the product:

#### **Isopropyl Alcohol, Technical Grade :**

TSCA Inventory Status: Listed  
Section 313: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
Canada DSL: Listed

#### **Soda Ash Grade 100 :**

TSCA Inventory Status: Listed  
Canada DSL: Listed

#### **Ethoxylated Alcohols Phosphate Ester (C8-10) :**

TSCA Inventory Status: Listed  
Canada DSL: Listed

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## SECTION 16 : ADDITIONAL INFORMATION

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HMIS Health Hazard: 3  
HMIS Fire Hazard: 1  
HMIS Reactivity: 2  
HMIS Personal Protection: X

Other Information: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). The customer is responsible for determining the appropriate PPE to be used for the task.  
The National Fire Protection Association (NFPA) rating system is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. NFPA hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a

material under conditions of fire, spill, or similar emergencies. NFPA hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. The NFPA system is intended to be interpreted and applied only by properly trained individuals to identify fire, health, and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**NFPA**

**2**

**HMIS**

<b>Health Hazard</b>	<b>3</b>
<b>Fire Hazard</b>	<b>1</b>
<b>Reactivity</b>	<b>2</b>
<b>Personal Protection</b>	<b>X</b>

SDS Revision Date:

May 01, 2015

MSDS Revision Notes:

Supercedes MSDS 2/13/2013

MSDS Author:

Regulatory department

Disclaimer:

We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within our control, it is the user's obligation to determine the conditions of safe use of the product.