Safety Data Sheet

For Compliance with OSHA 29 CFR 1910.1200 and ANSI Z400.1-1998

Section 1: Identification

Product Name Minoxidil USP
Commercial Name Not available.
Product Use Active pharmaceutical ingredient
Restrictions On Use Not available.

Product Code 55-2885

Company
PCCA
9901 South Wilcrest
Houston, TX 77099
Phone: 1-800-331-2498
Fax: 1-800-874-5760

In case of emergency contact:
CHEMTREC (24hr) 1-800-424-9300

Section 2: Hazard(s) Identification

OSHA Haz Com: CFR 1910.1200 Hazard classification and indication: Warning, Acute Tox.4 Harmful if swallowed

Signal Word WARNING

Hazard Statement(s) Harmful if swallowed.

Pictogram(s) or Symbol(s)

Precautionary Statement(s):

Prevention P260 Do not breathe dust / fume / gas / mist / vapours / spray.

Response P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Not available.

Disposal Not available.

Section 3: Composition/Information on Ingredients

Substance/Mixture Substance
Components Minoxidil USP
% By Weight 100
CAS# 38304-91-5
Molecular Weight 209.25 g/mole
Chemical Formula C9H15N5O
Synonym(s) 6-(1-Piperidinyl)pyrimidine2-4-diamine 3-oxide

Mixtures

Name	CAS#	% by Weight	TLV/PEL	LC50/LD50
Minoxidil USP	38304-91-5	100	Not Available.	Not Available.

Section 4: First-Aid Measures

Inhalation Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

Skin Contact Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

Eye Contact Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

Ingestion Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

Symptoms/Effects

Acute Not available.

Delayed Not available.

Immediate Medical Attention

Not available.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media

carbon dioxide, foam, powder and water spray.

Unsuitable Extinguishing Media

Not available.

Products of Combustion

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE Do not breathe combustion products. The product is combustible and, when the powder is released into the air in sufficient concentrations and in the presence of a source of ignition, it can create explosive mixtures with air. Fires may start or get worse by leakage of the solid product from the container, when it reaches high temperatures or through contact with sources of ignition.

Firefighters Special Equipment and Precautions

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations. SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combi nation with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: If there are no contraindications, spray powder with water to prevent the formation of dust. Avoid breathing vapours/mists/gases. Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures. Environmental precautions: The product must not penetrate into the sewer system or come into contact with surface water or ground water. Methods and material for containment and cleaning up: Use spark-proof mechanical equipment to collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues. Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

Section 7: Handling and Storage

Precautions for safe handling: Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Wash hands after use. Conditions for safe storage, including any incompatibilities: Keep the product in clearly labelled containers. Store the containers sealed, in a well ventilated place, away from direct sunlight.

Section 8: Exposure Controls/Personal Protection

Exposure Limits	During the risk assessment process, it is essential to take into consideration the ACGIH occupational exposure levels for inert particulate otherwise classified (PNOC respirable fraction: 3 mg/m3; PNOC inhalable fraction: 10 mg/m3). For values above these limits, use a P type filter, whose class (1, 2 or 3) must be chosen according to the outcome of risk assessment.
Engineering Controls	As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Personal Protection	Provide an emergency shower with face and eye wash station. HAND PROTECTION: In the case of prolonged contact with the product, protect the hands with penetration-resistant work gloves (see standard EN 374). Work glove material must be chosen according to the use process and the products that may form. Latex gloves may cause sensitivity reactions. SKIN PROTECTION: Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing. EYE PROTECTION: Wear airtight protective goggles (see standard EN 166). In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be us ed to prevent accidental absorption. RESPIRATORY PROTECTION: If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a type FFP1 or higher class face mask if otherwise required by the risk assessment (see standard EN 149). Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited. If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529. ENVIRONMENTAL EXPOSURE CONTROLS: The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Section 9: Physical and Chemical Properties

Appearance	White to almost white crystalline powder.
Odor	Odorless
Odor Threshold	Not available.

Melting Point	265 °C	**pH**	Not available.
Freezing Point	Not available.	**Vapor Pressure**	Not available
Boiling Point/Range	Not available.	**Vapor Density**	Not available.
Decomposition temperature	Not available.	**Viscosity**	Not available.
Partition Coefficient: n-octanol/water	Not available.	**Evaporation Rate**	Not available.
Flash Point	Not available.	**Autoignition temperature**	Not available.
Flammability	Not available.	**Flammability or Explosive Limits:**	
		Lower	Not available.
		Upper	Not available.

Solubility(ies)	0,2% (20°C) in water. Solubility in organic solvents 2,9% in C2H6O - 4,4% in CH3OH - 7,5% in C3H8O2
Other	Not available.

Section 10: Stability and Reactivity

Reactivity	Do not react with water, organic solvents, acids, basis
Chemical Stability	Product stable under recommended storage conditions for 5 years.
Hazardous Polymerization	Not available.
Conditions to Avoid	Warm, humidity, direct sunlight
Incompatible Materials	Oxidizers and comburent materials.
Hazardous Decomposition Products	Can decompose explosively by heathing, forming nitrogen and carbon oxides.

Section 11: Toxicological Information

RTECS UV8200000

Acute Toxicity

Acute effects: ingestion of this product is harmful. Even small amounts of product may cause serious health problems (stomach pain, nausea, sickness, diarrhoea). Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation. Vapour inhalation may moderately irritate the upper respiratory trait. Contact with skin may cause slight irritation. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness. Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Vapour inhalation may slightly irritate the upper respiratory trait. Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness. Acute effects: vapour inhalation may irritate the lower and upper respiratory tract and cause cough and respiratory disorders. At higher concentrations it can also cause pulmonary edema. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Skin Corrosion/Irritation

contact with skin may cause: irritation, erythema, edema, dryness and chapped skin.

Serious Eye Damage/Irritation

stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation.

Respiratory or Skin Sensitization

vapour inhalation may irritate the lower and upper respiratory tract and cause cough and respiratory disorders.

Germ Cell Mutagenicity

Not available.

Carcinogenicity
Not available.

Reproductive Toxicity
Not available.

Routes of Entry
Ingestion. Eyes. Inhalation. skin.

Symptoms Related to Exposure
Not available.

Potential Health Effects
Not available.

Target Organ(s) Inhalation - May cause respiratory irritation

Section 12: Ecological Information

Ecotoxicity
Not available.

Persistance and Degradability
Very easy degradable in acidic medium, more stable in neutral and alkaline medium

Bioaccumulative Potential
Not available.

Mobility in Soil
Not available.

Other Adverse Effects
Not available.

Section 13: Disposal Considerations

Waste Disposal
Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations. Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations. Avoid littering. Do not contaminate soil, sewers and waterways.

Disposal of Container
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

Other Considerations
Not available.

Section 14: Transport Information

DOT Classification
Not a DOT controlled material (United States). This material is not classified dangerous good according to international transportation regulations (ADR/RID-IMDG-ICAO/IATA).

Section 15: Regulatory Information

Regulations
Not available.

Other
Not available.

Section 16: Other Information

The product is a drug substance with therapeutics activity and it is intended for pharmaceutical. For restricted sale only. The product has to be handled in specialized and suitably equipped firms.