



MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT: Hydrocortisone

MSDS DATE: 19 May, 2011

Notice

NSF Reference Standards are for test and assay use only and are not intended for human or animal consumption. This document communicates information relating to test and assay use only and may not be applicable for any unauthorized use.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Hydrocortisone
Catalog Code: RS1-0013
Synonym: 4-pregnene-11beta, 17-alpha, 21-triol 3,20-dione
Chemical Formula: $C_{21}H_{30}O_5$
CAS #: 50-23-7

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Name: Hydrocortisone

CAS#: 50-23-7

% by Weight: 100%

Toxicological Data on Ingredients:

Propylparaben ORAL (LD50): Acute: 5000 mg/Kg [Rat]

SECTION 3: HAZARDS IDENTIFICATION

Potential Acute Health Effects:



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Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available

MUTAGENIC EFFECTS: Not available

TERATOGENIC EFFECTS: Not available

DEVELOPMENTAL TOXICITY: Classified as Reproductive system toxin/ female and male [SUSPECTED].

Hydrocortisone may be toxic to the reproductive system. Repeated or prolonged exposure to hydrocortisone can produce target organ damage.

SECTION 4: FIRST AID MEASURES

Eye Contact:

Check for and remove contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

Skin Contact:

In case of contact, immediately wash skin with non-abrasive soap and plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes and thoroughly wash before reuse. If irritation persists, seek medical attention.

Serious Skin Contact:

Not Available

Inhalation:

If inhaled, remove to fresh air. Seek immediate medical attention.

Serious Inhalation:

Not available

Ingestion:

Do not induce vomiting. Loosen tight clothing. Seek medical attention immediately.

Serious Ingestion: Not available.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flammable Limits: Not available.

Flash Points: Not available

Products of Combustion: These products are carbon oxides (CO, CO₂)

Special Remarks on Explosion Hazards: Not available.



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Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Special Remarks on Fire Hazards: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. After powder clean up, spread water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use appropriate tools to put the material into a suitable waste disposal container. After powder clean up, spread water on the contaminated surface and dispose of according to local and regional authority requirements.

SECTION 7: HANDLING AND STORAGE

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as acids and alkalis.

Storage:

Light sensitive. Store in a light resistant container. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C.



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

If laboratory operations generate dust, fume or mist, use local exhaust ventilation or other appropriate engineering controls to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid, (Solid crystalline powder)

Odor: Odorless

Taste: Bitter

Molecular Weight: 362.47 g/mol

Color: White to off white

pH (1% soln/water): Not Available

Boiling Point: Not Available.

Melting Point: 218°C (424.4°F)

Critical Temperature: Not available

Specific Gravity: Not Available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not Available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, acetone.

Solubility:

Soluble in methanol, acetone. Slightly soluble in cold water, hot water.



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SECTION 10: STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with acids and alkalis

Corrosivity: Not available

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Absorbed through skin, eye contact

Toxicity to Animals: Acute oral toxicity (LD50): 5000 mg/kg [Rat].

Chronic Effects on Humans: DEVELOPMENTAL TOXICITY; Classified as reproductive system toxin in both male and female [SUSPECTED] May cause damage to the reproductive system.

Other Toxic Effects on Humans:

Slightly hazardous in case of skin contact (irritant, permeator) and eye contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals:

Not available.

Special Remarks on Chronic Effects on Humans:

Corticosteroids are generally teratogenic in laboratory animals when administered systematically in doses substantially greater than those usually employed in humans. Carcinogenicity; Negative in in-vivo tests, not listed as a carcinogen by IARC.

Special Remarks on other Toxic Effects on Humans:

May affect metabolism and genetic material. Can cause adverse reproductive effects and birth defects.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:



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Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:

The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation:

Not Available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material in the United States

Identification: Not available.

Special Provisions for Transport: Not available.

SECTION 15: REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Hydrocortisone

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1919.1200) EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

DSCL (EEC):

R20/22 – Harmful by inhalation and if swallowed. R33 – Danger of cumulative effects. S36/37/39 – Water suitable protective clothing, gloves, and eye/ face protection.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: E



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National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles. Wear appropriate respirator when ventilation is inadequate.

SECTION 16: OTHER INFORMATION

References: Not available.

Other Special Considerations: Not available.

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