1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of Substances of Preparation:

Product Id: 20015I
Product Name: GERMALL® PLUS
CAS Registry Number: 78491-02-8; 55406-53-6
CAS Registry Name: Urea, N-(1,3-bis(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)-N,N'bis(hydroxymethyl)-; Carbamic acid, butyl-, 3-iodo-2-propynyl ester
Manufactured by: Sutton Laboratories
116 Summit Ave.
Chatham, NJ 07928
Distributed By: ISP Europe HQ
Waterfield
Tadworth
Surrey KT20 5HQ, United Kingdom
Synonyms: Diazolidinyl Urea; Iodopropynyl Butylcarbamate (INCI NAMES)
Emergency Telephone: 01865 407333
From outside the UK:(44) 1865 407333 (English only)
Prepared By: Product Stewardship
Product Use: Preservative

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>Weight %</th>
<th>EU Classification</th>
<th>German MAK</th>
<th>UK OES/MEL</th>
</tr>
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<tr>
<td>Urea, N-(1,3-bis(hydroxymethyl)-2,5-dioxo-4-imidazolidinyl)-N,N'-bis(hydroxymethyl)</td>
<td>98</td>
<td>NA</td>
<td>Not determined</td>
<td>Not determined</td>
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<tr>
<td>78491-02-8</td>
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</tbody>
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3. HAZARDS IDENTIFICATION

Risk Phrases: R52 - Harmful to aquatic organisms.
R53 - May cause long-term adverse effects in the aquatic environment.

Hazard Overview
Target Organs: Eyes
Primary Entry Routes: Eyes. Ingestion.
Acute Health Hazards: Causes mild eye irritation.
Chronic Health Hazards: None known
Signs and Symptoms of Overexposure

Eye Contact: Causes mild eye irritation.

Skin Contact: Not a hazard under normal use conditions.

Ingestion: Not a hazard under normal use conditions.

Inhalation: Not a hazard under normal use conditions.

4. FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Skin Contact: Wash with soap and water.

Ingestion: Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation: No specific treatment is necessary since material is not likely to be hazardous by inhalation. If exposed to excessive levels of dust or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

5. FIRE FIGHTING MEASURES


Extinguishing Media: All standard firefighting media

Unusual Fire/Explosion Hazards: Unknown

Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Use appropriate protective equipment.

Procedure for Cleaning/Absorption: Contain spill with sand or other inert materials.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes. Wash thoroughly with soap and water after handling. May produce sensitization to damaged exposed skin (as sold) (See Toxicological Section 11). Wear appropriate PPE.


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use in a well ventilated area.

Respiratory Protection: Use in a well ventilated area.

Hand Protection: Use gloves as a standard industrial handling procedure.

Eye Protection: Chemical goggles; also wear a face shield if splashing hazard exists.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder
Color: White
pH: Unknown
Specific Gravity: Unknown
Boiling Point (°F): Not determined
Melting Point (°F): Not determined
Vapor Pressure: Not determined
Solubility: Soluble in water

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling, use and transportation.
Hazardous Polymerization: Will not occur
Conditions to Avoid: Not determined.
Hazardous Decomposition Products: None known

11. TOXICOLOGICAL INFORMATION

Toxicity Test:

Acute Oral LD50 (mg/kg): 2,570 (Diazolidinyl urea)
                           1,470 (IPBC)
Acute Dermal LD50 (mg/kg): >2,000 (Diazolidinyl urea)
                          >2,000 (IPBC)
Acute Inhalation LC50 (mg/l): 1.3 (rat, 50% aqueous solution)
                                670 (IPBC dust)
                             630 (IPBC as liquid aerosol)

Sensitization: Non-sensitizing (0.5% aqueous solution) (Human RIPT) (Diazolidinyl urea)
                Non-sensitizing to guinea pigs (0.1% aqueous solution) (Diazolidinyl urea)
                Slight sensitizer to guinea skin in Guinea Pig Maximization Test (5% aqueous solution injection) (Diazolidinyl urea)
                Non-sensitizing (0.1% aqueous solution) (Germall Plus)

Mutagenicity: Non-mutagenic (Ames assay, Mouse micronucleus test, Rat hepatocyte DNA repair assay) (IPBC)
               Non-mutagenic (Ames assay). (Diazolidinyl urea)
               Non-mutagenic (In-Vitro Chromosomal Aberration- Chinese hamster ovary cells).
               (Diazolidinyl urea)
               Non-mutagenic (In-Vitro rat hepatocytes/DNA Repair Assay) (Diazolidinyl urea).
Reproductive/Developmental Toxicity:
- Rat 42 weeks; 120, 300, 750 mg/kg/day NOAEL=120 mg/kg/day (IPBC)
- Rat 9 days; 20, 50, 125 mg/kg/day NOAEL= 50 mg/kg/day (IPBC)
- Rat 14 weeks; 120, 300, 750 mg/kg/day NOAEL= 120 mg/kg/day (P & F1 generations) (IPBC)
- Mouse 9 days; 20, 50, 125 mg/kg/day NOAEL= 50 mg/kg/day (IPBC)
- Mouse 9 days; 20, 50, 125 mg/kg/day NOAEL 125 mg/kg/day (Maternal and Reproductive toxicity) (IPBC)
- Mouse 9 days; 20, 50, 125 mg/kg/day NOAEL for Maternal= 50 mg/kg/day & 125 mg/kg/day for Repro (IPBC)
- Rat 9 days; 20, 50 125 mg/kg/day NOAEL= 50 mg/kg/day for Maternal & Repro (IPBC).

Teratogenicity:
- Non-teratogenic in rats dosed orally with 125, 250 or 500 mg/kg day.
- Nonteratogenic in rats receiving dermally 30-300 mg/kg/day from days 6-15 of gestation. (Diazolidinyl urea)

Carcinogenicity:
- No evidence of carcinogenic potential. Rat 100 weeks; 20, 40,80 mg/kg/day NOAEL=20 mg/kg/day (IPBC)

Skin Irritation:
- Non-irritating to rabbit (5% aqueous solution) and guinea pig skin (100% wettable powder) (Diazolidinyl urea)
- Non-irritating to human skin (0.5% aqueous solution, Diazolidinyl urea)
- Slightly irritating to rabbit skin (0.0125% IPBC in sunscreen formulation)
- Practically non-irritating to rabbit skin (IPBC)
- Non irritating (Human RIPT). (1.0% aqueous solution, Diazolidinyl urea & IPBC)

Eye Irritation:
- Mildly irritating to rabbit eye (50% aqueous solution) (Diazolidinyl urea)
- Non-irritating to rabbit eye (1 & 5 % aqueous solutions) (Diazolidinyl urea)
- Moderately irritating to rabbit eye with washout
- Severely irritating to rabbit eye without washout (IPBC)

Other Information:
- Phototoxicity: Non-phototoxic (0.015% IPBC)
- Non-photoallergic (0.2ml, 100% IPBC)
- Phototoxicity: Non-phototoxic (0.5% Diazolidinyl urea)
- Comedogenicity; Non-Comedogenic (0.1% IPBC in white cream, 0.01% moisturizing gel).
- Rat 28 day: 60, 125, 250 mg/kg/day; NOAEL= 60 mg/kg/day (IPBC)
- Rat 90 day: 20, 50, 125 mg/kg/day; NOAEL= 20 mg/kg/day (IPBC)
- Rat 90 day: 20, 50, 125 mg/kg/day; NOAEL (Females)= 125 mg/kg/day; NOAEL (Males)= 50 mg/kg/day (IPBC)
- Subchronic Oral Toxicity: Rat 90; 10, 25, 100 mg/kg/day - no observed adverse effect level (NOAEL) 100 mg/kg/day (Diazolidinyl urea) 28day; 100, 300, 900 mg/kg. no observed adverse effect level (NOAEL) 100 mg/kg/day (Diazolidinyl urea)
12. ECOLOGICAL INFORMATION

Biodegradability: Not determined.

Aquatic Toxicity: Daphnia Magna, 48 hr. EC50: 34.9 mg/L; NOEL 21.6 mg/L
Bluegills, 96 hr. LC50: >100 mg/L; NOEL 60 mg/L
Rainbow trout, 96 hr. LC50: >100 mg/L; NOEL 100 mg/L
Acute Oral LD50: >2,250 mg/kg (Northern bobwhite).
5-Day subacute dietary studies produced no evidence of toxicity at concentrations up to 5,620 ppm. (Diazolidinyl urea)

Germany VCI Assigned Classification into Water Endangering Classes (WGK) List

This product and/or its components is listed on or has been reviewed by WGK.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Follow all applicable community, national or regional regulations regarding waste management methods.

14. TRANSPORT INFORMATION

Land Transportation:

DOT (Non-Bulk):
DOT Shipping Name: NOT REGULATED
UN/NA Number: NONE
Hazard Class: NONE

DOT (Bulk):
DOT Shipping Name: NOT REGULATED
UN/NA Number: NONE
Hazard Class: NONE

Air Transportation (IATA):
Proper Shipping Name: NOT REGULATED
UN Number: NONE
Hazard Classification: NONE

Sea Transportation (IMO):
Proper Shipping Name: NOT REGULATED
UN/ID Number: NONE
Hazard Classification: NONE

ADR:
Proper Shipping Name: NOT REGULATED

15. REGULATORY INFORMATION

Classification:
16. OTHER INFORMATION

Prepared By: Product Stewardship

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***END OF MSDS***