

**PRODUCT NAME: Reactive Skin Decontamination Lotion (RSDL)**  
**PRODUCT CODE: F5402**  
**Preparation Date: October 23, 2006**

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## **1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY**

### **1.1. Identification of the substance or preparation**

Reactive Skin Decontamination Lotion (RSDL)

### **1.2. Use of the substance or preparation**

RSDL has been cleared by the Food and Drug Administration as a medical device for the decontamination of skin exposed to chemical warfare agents and certain biological toxins.

### **1.3. Identification of the company**

E-Z-EM Canada Inc.  
11065 L.-H.-Lafontaine Blvd.  
Anjou, Quebec, Canada  
H1J 2Z4  
Tel: 514-353-5820  
Fax: 514-353-9938

### **1.4. Emergency telephone**

514-353-5820

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## **2. COMPOSITION / INFORMATION ON INGREDIENTS**

### **2.1. Chemical characterization**

Mixture of Dekon 139 and 2, 3 butanedione monoxime (DAM) in a polyethyleneglycol monomethyl ether and water solvent system.

### **2.2. Hazardous ingredients**

No hazardous ingredient.

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## **3. Hazards Identification**

### **3.1. General**

For external use only. Not for prophylactic use or whole body decontamination. Not a substitute for proper protective breathing devices and garments. Avoid unnecessary contact with eyes and mucous membrane. RSDL should not be used for wound decontamination because its effects on wounds and effects resulting from its absorption through the wound have not been studied.

### **3.2. Absorption**

Avoid extended contact with the skin. One of the ingredients (DAM) is absorbed through the skin. RSDL has not been tested in humans using amounts required for decontamination. Intravenous injections of DAM have been shown to cause serious systemic toxicity up to and including a transient comatose state (unconsciousness). There have been no instances of death. Pending further studies, do not use RSDL for whole body decontamination.

### **3.3. Flammability**

Flammability: The RSDL vehicle (MPEG) when combined with some commonly used decontamination materials, i.e., solid powdered HTH (calcium hypochlorite) or solid powdered Super Tropical Bleach, causes spontaneous combustion. Should RSDL be used on the same decontamination line as either of these products, care must be taken to keep them apart. Do not discard RSDL packaging and sponge into containers that contain or have contained solid undiluted HTH or Super Tropical Bleach.

### **3.4. Pregnancy**

Pregnancy:

RSDL should be used during pregnancy only when necessary; one of the ingredients, 2,3 butanedione monoxime (DAM) has been shown to cross the placental barrier in animal studies.<sup>1</sup> Animal reproduction studies have shown RSDL to be non toxic for all of the reproductive parameters examined, including the neonates - RSDL is not teratogenic, not spermicidal, and not embryocidal.<sup>2</sup> No human studies on pregnant women have been conducted.

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## **4. First aid measures**

### **4.1. Inhalation**

No emergency care anticipated.

### **4.2. Contact with skin**

Wash skin with soap and water.

### **4.3. Contact with eyes**

Flush eyes thoroughly with water for several minutes. Remove contact lenses, if worn.

### **4.4. Ingestion**

No emergency care anticipated.

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1. Passage of Tertiary and Quaternary Nitrogen Compounds Through the Rat Placenta; *Arch Int Pharmacodyn Ther.* 1974 Aug 210 (2):232-240.
  2. One-Generation Reproduction Study of RSDL in Rat; Southern Research Study Number: 9200.05.01 February 13, 2003. Southern Research Institute, Birmingham Alabama.

## 5. Fire-Fighting Measures

### 5.1. Flammable properties

Condition of flammability: Ignites if heated above the flash point.

Flash Point: 238 °C, Cleveland Open Cup ASTM D92

Flammability Limit, Lower: 1.1

Flammability Limit, Upper: 6.9

### 5.2. Suitable extinguishing methods

Apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires. Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity. Use self-contained breathing apparatus and protective clothing.

### 5.3. Methods not suitable for safety reasons

No information currently available.

### 5.4. Special exposure hazards

Carbon monoxide and carbon dioxide are fire by-products.

### 5.5. Special protective equipment

Use self-contained breathing apparatus and protective clothing.

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## 6. Accidental release measures

### 6.1. Personal precautions

Wear suitable protective equipment. See Section 8 – Exposure Controls and Personal Protection

### 6.2. Methods for cleaning up

Small spills can be flushed with large amounts of water; larger spills should be collected for disposal. Observe Government regulations.

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## 7. Handling and storage

### 7.1. Handling

Use normal measures in the handling of chemical products.

### 7.2. Storage

Temperatures should be between 10 °C and 30 °C.

### 7.3. Specific uses

The full strength solution is applied on body surfaces after exposure to chemical warfare agents (RSDL should not be used before exposure since its effectiveness following prophylactic use has not been evaluated). Generally, one 21 ml packet is sufficient to decontaminate hands, neck, and face. The packaging and sponge should be discarded after a single use.

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## 8. Exposure controls / personal protection

### 8.1. General protective measures

Unnecessary contact with eyes and mucous membranes should be avoided.

### 8.2. TLV

There are no known limits for odour detection.

### 8.3. Respiratory protection

None should normally be necessary.

### 8.4. Hand Protection

None required.

### 8.5. Eye protection

Safety glasses or goggles.

### 8.6. Skin protection

None required.

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## 9. Physical and chemical properties

### 9.1. Physical form

Clear yellow/orange brown solution.

### 9.2. Properties

Boiling point: Decomposes, > 200 °C

Density (H<sub>2</sub>O = 1) : 1.1

Vapor pressure (mm HG) : < 0.01

Freezing point: 0 °C

Vapour density (air = 1) : > 1

Evaporation rate (butyl acetate=1) : 0

Solubility in water : 100 %

pH : 10.35 – 10.85

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## 10. Stability and reactivity

### 10.1. Conditions to avoid

This is a stable product, no special conditions to avoid.

### 10.2. Materials to avoid

Avoid strong bases at high temperatures, strong acids, strong oxidizing agents and materials reactive with hydroxyl compounds. The RSDL vehicle (MPEG) when combined with some commonly used decontamination materials, i.e., solid powdered HTH (calcium hypochlorite) or solid powdered Super Tropical Bleach, causes spontaneous combustion. Should RSDL be used on the same decontamination line as either of these

products, care must be taken to keep them apart. Do not discard RSDL packaging and sponge into containers that contain or have contained HTH or Super Tropical Bleach.

### **10.3. Hazardous decomposition products**

None under normal conditions, however, burning can produce carbon monoxide and/or carbon dioxide.

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## **11. Toxicological information**

### **11.1. Acute effects**

LD50 > 950 mg/kg in rabbits.

### **11.2. Irritation**

Irritation to the eyes is possible.

### **11.3. Sensitization**

Not known.

### **11.4. Chronic toxicity**

Not known.

### **11.5. Route of entry**

Inhalation : May occur  
Skin Contact : May occur  
Skin Absorption : May occur  
Ingestion : May occur  
Eye Contact : May occur

### **11.6. Mutagenicity**

Non-mutagenic<sup>3</sup>

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## **12. Ecological information**

### **12.1. Water solubility**

The product is completely soluble in water

### **12.2. Biodegradability**

N/D

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3. Salmonella Mutagenicity Tests: II. Results from the testing of 270 chemicals; *Environ. Mutagen.* 8 (Suppl. 7):1-119, 1986.

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## 13. Disposal conditions

### 13.1. Disposal

Do not dump into sewers, on the ground, or any body of water. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations.

E-Z-EM Canada Inc. has no control on the management practices of parties handling or using this material. The information presented here pertains only to the product as shipped in its intended condition as described in section 2 of this MSDS (Composition / Information on ingredients).

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## 14. Transport information

### 14.1. TDG - Canada

Not Regulated

### 14.2. UN Number

N/A

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## 15. Regulatory information

### 15.1. Directive 67/548/EEC and its modifications, adaptations and later transpositions

This product is not dangerous in the sense of this directive.

### 15.2. WHMIS

This product is not a « Controlled Product » under WHMIS

### 15.3. Toxic Substances Control Act (TSCA)

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

### 15.4. EINECS

This product is not included in EINECS. This product is not required to be included in EINECS.

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## 16. Other information

### 16.1. Hazard Rating system

NFPA ratings for this product are: H – 0 F – 1 R – 0