

MATERIAL SAFETY DATA SHEET

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MSDS DATE: 1/02/2002

1. PRODUCT IDENTIFICATION

PRODUCT NAME: STAY-CLEAN I/E
 CHEMICAL DESCRIPTION: Multi-component liquid
 PRODUCT CLASS: Biocide

2. HAZARDOUS INGREDIENTS AND EXPOSURE

CAS	% by	Chemical Name	Number	weight	OSHA PEL	ACGIH TLV
		2-(4-thiazolyl)benzimidazole	148-79-8	50	NE	NE
		Ethylene glycol	107-21-1	35	Ceiling 50 ppm,	
		Ceiling 50 ppm,				
				125 mg/m3		127 mg/m3

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! May cause eye irritation.

PRIMARY ROUTES OF ENTRY: Eye and skin contact, ingestion, inhalation.

TARGET ORGANS: Eye, kidney, central nervous system

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Unknown

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: This product may produce irritation upon contact with the eye.

SKIN CONTACT: This product may produce minor irritation upon skin contact. This product is not expected to be absorbed through the skin in harmful amounts or to cause skin sensitization. Repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis.

3. HAZARDS IDENTIFICATION (Cont'd)

INGESTION: This product would be expected to be moderately toxic by ingestion. Ingestion of large volumes of ethylene glycol may result in central nervous system depression and kidney damage. Cardiac failure and pulmonary edema may develop. Early to moderate CNS depression may be evidenced by changes in urine output, urine appearance or edema (swelling from fluid retention).

INHALATION: This product is not expected to present an inhalation hazard unless mists or vapors are generated. Significant air concentrations are not achieved unless the product is heated or sprayed as a mist. Inhalation of product mist may cause irritation of the nose and throat with headache, tearing and coughing. High vapor concentrations of ethylene glycol caused, for example, by heating the product in an enclosed and poorly ventilated workplace, may produce irritation of upper respiratory tract, nausea, vomiting, headache, dizziness, and irregular eye movements.

SUBCHRONIC, CHRONIC: No applicable information was found concerning any potential health effects resulting from subchronic or chronic exposure to the product.

Repeated inhalation of ethylene glycol mist may produce signs of central nervous system involvement, particularly dizziness and nystagmus (rhythmical oscillation of the eyeballs, either horizontal, rotary, or vertical.)

In one study, when ethylene glycol was administered in the diet at daily doses up to 1.0 g/kg to pregnant rats, no maternal toxicity, no embryotoxicity nor teratogenicity were observed. In a more recent study, when ethylene glycol was administered by gavage at daily doses of 1.25 g/kg and above to pregnant rats, or at 750 mg/kg and above to pregnant mice, there was an increase in the number of malformed fetuses at all dose levels. Except at the lowest dose level in mice, there was also evidence of maternal toxicity at all dose levels.

Observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol has caused birth defects in humans.

CARCINOGENICITY:

NTP: No ingredients listed in this section.

LARC: No ingredients listed in this section.

OSHA: No ingredients listed in this section.

4. FIRST AID MEASURES

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical aid.

SKIN CONTACT: Not expected to require first aid measures.

INGESTION: Not an expected route of overexposure.

INHALATION: Not an expected route of overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 200F This product is not flammable or combustible
LOWER FLAMMABLE LIMITS: NA UPPER FLAMMABLE LIMITS: NA

AUTO-IGNITION TEMPERATURE: NA

EXTINGUISHING MEDIA: Use extinguishing media appropriate for the surrounding fire.

FIRE-FIGHTING INSTRUCTIONS: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.

FIRE & EXPLOSION HAZARDS: Product emits toxic gases under fire conditions.

DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulfur

NFPA RATINGS: Health: 2 Flammability : 1 Reactivity: 0 Special Hazard: 0

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Wearing appropriate personal protective equipment, contain spill, collect onto inert absorbent and place into suitable container.

7. HANDLING AND STORAGE

HANDLING: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Avoid contact with eyes. Avoid breathing vapor or mist. As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the product and ensure prompt removal from skin and clothing. Use with adequate ventilation. Wash thoroughly after handling. Keep container closed when not in use.

STORAGE: The product is stable during normal storage conditions. Do not contaminate water, food, or feed by storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

EYE / FACE PROTECTION: Chemical splash goggles.

SKIN PROTECTION: Chemical resistant gloves recommended as a good industrial hygiene practice. (Neoprene and Viton gloves may be unsuitable for use with this product.)

RESPIRATORY PROTECTION: If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

ENGINEERING CONTROLS: Use local exhaust ventilation at elevated temperatures or if mists are generated.

WORK PRACTICES: An eye wash station should be accessible in the immediate area of use.

UNSATISFACTORY MATERIALS OF CONSTRUCTION: BUNA N, carbon steel, EPDM, Hypalon, neoprene, Silicone 65, Viton, and polypropylene.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point: > 212° F

Vapor Pressure: 0.12 mmHg @ 25° C (for ethylene glycol)

Vapor Density (air=1): 2.14 (for ethylene glycol)

% Volatile By Weight: ~7%

Solubility in Water: Slight

Specific Gravity: 1.122-1.192 @ 25° C

pH: Not applicable

Freezing Point: Not available

Appearance and Odor: Light tan, smooth, flowable, viscous liquid.

10. **STABILITY AND REACTIVITY**

Chemical Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to Avoid: No specific information

Incompatibility: Strong oxidizers

Decomposition Products: CO_x NO_x SO_x

11. **TOXICOLOGICAL INFORMATION**

ON PRODUCT:

Oral LD50 (rat): 8.6 ml/kg.

Eye irritation: A similar product was tested and produced no irritation in washed or unwashed rabbit eyes.

Skin irritation: The Primary Skin Irritation Index is 0/8.

11. **TOXICOLOGICAL INFORMATION (Cont'd)**

ON INGREDIENTS:

Chemical Name	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
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2-(4-thiazolyl)- benzimidazole	3.1 g/kg	> 20 g/kg	> 6 ml/liter/ 1 hr
Ethylene glycol 10,000 mg/m ³	4700 mg/kg	(20% soln) 9530 mg/kg	(20% soln) Human TCLO:

12. ECOLOGICAL INFORMATION

ON PRODUCT:

Environmental data:

Do not discharge effluent containing this product into lakes, streams, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. For guidance, contact your State Water Board or Regional Office of the EPA.

ON INGREDIENTS:

Chemical Name	Aquatic Toxicity Data
2-(4-thiazolyl)benzimidazole	96 hr LC50 (rainbow trout): 1.8 ppm 96 hr LC50 (bluegill sunfish): 22 ppm
Ethylene glycol	96 hr LC50 (flathead minnow): > 1000 ppm

13. DISPOSAL CONSIDERATIONS

RCRA STATUS:

This product as sold would not be considered a RCRA Hazardous Waste.

DISPOSAL:

Dispose of in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Hazard Class: Not restricted
Proper Shipping Name: Not applicable
ID Number: Not applicable
Label: None

Chemical

RO

* No ingredients listed in this section.*

Product RQ: Not applicable

14. TRANSPORT INFORMATION (Cont'd)

SARA TITTLE III:

Section 302 Extremely Hazardous Substances:

<u>Chemical Name</u>	<u>CAS</u>	<u>RO</u>	<u>TPO</u>
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* No ingredients listed in this section.*

Section 311 and 312 Health and Physical Hazards

Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

Section 313 Toxic Chemicals:

<u>Chemical Name</u>	<u>CAS#</u>	<u>% by Weight</u>
Ethylene glycol	107-21-1	35
Thiabendazole	148-79-8	50

CALIFORNIA PROPOSITION 65

Cause: This product contains: Known to the State of California to

* No ingredients listed in this section

15. REGULATORY INFORMATION

OSHA Hazard Communication Status: Hazardous

TSCA: Pesticides are exempted by TSCA (the Toxic Substances Control Act), under Section 3(2)(a)ii, from the provisions of the Act. FIFRA (the

Federal Insecticide, Fungicide and Rodenticide Act) does not allow the use of registered pesticides in any manner inconsistent with the label.

CERCLA reportable quantity of EPA hazardous substances in product:

16. OTHER INFORMATION

HMIS RATINGS

Health: 2 Flammability: 1 Reactivity: 0
Person Protective Equipment: X (to be specified by user depending on use conditions)

* There are potential chronic health effects to consider.

NE: None Established