



**MATERIAL SAFETY
DATA SHEET**

N-2001 ANTIMICROBIAL

DATE: 08/18/2006

CAS NO: 13590-97-1
SUPERSEDES: 04/20/2006

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: N-2001 ANTIMICROBIAL
SYNONYMS: n-Dodecylguanidine Hydrochloride (HCl)
CHEMICAL FAMILY: Guanidine
MOLECULAR FORMULA: $C_{13}H_{20}N_3Cl$
MOLECULAR WEIGHT: 253.5
VERICHEM, INC: 3499 Grand Avenue, Pittsburgh, PA 15225 (412-331-7299, 8:30 am to 5:00 pm)
EMERGENCY PHONE NUMBER: For any emergency involving spill, leak, fire, exposure, or accident call
CHEMTREC: 1-800-424-9300. Outside the USA and Canada call: 703-527-3887.

2. COMPOSITION / INFORMATION ON INGREDIENTS

REGULATED COMPONENTS

COMPONENT	CAS NUMBER	PERCENT	WORKER EXPOSURE	REFERENCE
N-dodecylguanidine HCl	13590-97-1	35%	None Established	PEL / TLV
Isopropanol	67-63-0	16%	400 ppm	OSHA PEL

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE: Clear, Colorless to Pale Yellow Liquid **ODOR:** Slight Amine Odor

EFFECTS OF OVEREXPOSURE:

HUMAN: Corrosive to skin and eyes. (Flash Point 95° F/ 35° C). Harmful if swallowed or inhaled.

ENVIRONMENTAL: Toxic to fish. (LC₅₀ – 96 hrs Trout 4.2 mg/l)

4. FIRST AID MEASURES (IN CASE OF CONTACT)

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. **IF SWALLOWED:** Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. **IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor. **NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage. Measure against circulatory shock respiratory depression and convulsion may be needed.

5. FIRE FIGHTING MEASURES

FLASH POINT: 95° F / 35° C (Seta flash)
FLAMMABLE LIMITS (% BY VOLUME): Not available.
AUTOIGNITION TEMPERATURE: Not available.
DECOMPOSITION TEMPERATURE: Not available.

EXTINGUISHING MEDIA AND FIRE FIGHTING INSTRUCTION

Use water spray, alcohol foam, carbon dioxide, or dry chemical to extinguish fires. Water stream may be ineffective. Use water to keep containers cool. Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing. See Section 8 (Exposure Controls/Personal Protection) for special protective clothing.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove ignition sources. Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. See Section 8 for PPE recommendation. Dyke area to contain spill. Soak up pooled liquid with a suitable absorbent such as clay, sawdust kitty litter or fuller's earth. Sweep up the absorbed material and place into an appropriate chemical waste container for disposal. Generously cover contaminated area with slurry of common, powdered household laundry detergent and water. Using a stiff brush, work the slurry into cracks and crevices. Allow to stand for 2-3 minutes then flush with water. Repeat if necessary. Do not discharge unless in accordance with Federal, State and Local Regulations.

7. HANDLING AND STORAGE

Storage Requirements: Store this product between 60° F and 110° F. Storage should be suitable electrically to store combustible materials. Handling Requirements: Do not get in eyes on skin or clothing. Avoid breathing vapor or mist spray. Wash thoroughly after handling with soap and water, and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse.

8. PERSONAL PROTECTION

EYE PROTECTION REQUIREMENTS: Wear protective eyewear (goggles, face shields or safety glasses).

SKIN PROTECTION REQUIREMENTS: Wear protective clothing and rubber gloves.

VENTILATION REQUIREMENTS: Use a closed system process where feasible. Where this material is not used in enclosed systems, good enclosure and local exhaust ventilation should be provided to control exposure.

RESPIRATOR REQUIREMENTS: Where exposures are below the PEL, no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH or full protective suit with air supply appropriate for the material and level of exposure. See "GUIDE TO INDUSTRIAL RESPIRATORY PROTECTION (NIOSH).

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Colorless to light yellow or blue-green aqueous liquid, may contain haze or slight precipitate with Isopropanol odor

BOILING POINT:	194° F; 90° C
EVAPORATION RATE:	Unknown
MELTING POINT:	Not applicable
PERCENT VOLATILE (BY WEIGHT):	~62% @ 100° C
pH:	3.0 – 4.0 @ 25°C
SATURATION IN AIR (% BY VOLUME):	Unknown
SOLUBILITY IN WATER:	Complete/100%
SPECIFIC GRAVITY:	~0.95 @ 25°C

10. STABILITY AND REACTIVITY

STABILITY:	Stable.
CONDITIONS TO AVOID:	None known

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS

ORAL LD ₅₀ (rat):	1,400 mg/kg
DERMAL LD ₅₀ (rabbit):	>2,000 mg/kg
INHALATION (rat):	LC ₅₀ Rat, 1.05-1.79 mg/l - 1 Std
EYE IRRITATION:	Severe irritant / corrosive
SKIN IRRITATION:	Severe irritant / corrosive
SENSITIZATION:	N/A
CARCINOGENICITY: NTP:	No

TERATOLOGY: A study in rats, a product containing 33% DGH was dissolved in distilled water and administered by gastric intubation during the Day 6 – 15 gestation interval. Dose levels were 45, 90 and 180 mg/kg/day. The results of this study indicated that the test material was not fetotoxic, embryotoxic or teratogenic in the rat even at the two highest dose levels which resulted in material toxicity.

12. ECOLOGICAL INFORMATION**FISH:**BLUEGILL: 2.0 mg/L (96 hour LC₅₀)RAINBOW TROUT: 4.2 mg/L (96 hour LC₅₀)**WILDLIFE:**DAPHNIA MAGNA: 0.09 mg/L (48 hour LC₅₀)**13. DISPOSAL CONSIDERATION**

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal. **PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal Law. If waste cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. **CONTAINER DISPOSAL:** Do not reuse empty container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by the state and local authorities.

14. TRANSPORT INFORMATION

This section provides basic shipping classification information. Refer to appropriate transportation regulations for specific requirements.

	DOT Shipping Information	IMO Shipping Information	ICAO/IATA	TRANSPORT CANADA
Shipping Name	Flammable Liquid, Corrosive n.o.s. (contains: Dodecylguanidine and Isopropanol)	Flammable Liquid, Corrosive n.o.s. (contains: Dodecylguanidine and Isopropanol)	Flammable Liquid, Corrosive n.o.s. (contains: Dodecylguanidine and Isopropanol)	Flammable Liquid, Corrosive n.o.s. (contains: Dodecylguanidine and Isopropanol)
Hazard Class	3	3	3	3
Packing Group	III	III	III	III
Subsidiary Class	8	8	8	8
UN/ID Number	UN 2924	UN 2924	UN 2924	UN 2924
Transport Label Required	Flammable Liquid / Corrosive	Flammable Liquid / Corrosive	Flammable Liquid / Corrosive	Flammable Liquid / Corrosive
Packing Instructions Passenger Cargo	N/A	N/A	309 310	N/A
Max. Net Quantity Passenger Cargo	N/A	N/A	1L 60L	N/A
D.O.T. Hazardous Substances	N/A	N/A	N/A	N/A
IMDG Page	N/A	N/A	N/A	N/A

15. REGULATORY INFORMATION**INVENTORY INFORMATION**

US TSCA: This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S.C. 2601 et. Seq. This product contains a chemical substance that is subject to export notification under Section 12 (b) of the Toxic Substances Control Act, 15 U.S.C. 2601 et. Seq.

CANADA DSL: Components of this product have been reported to Environmental Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.

EEC EINECS: All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directive 67/548/EEC and its amendments. **OTHER ENVIRONMENTAL INFORMATION**

The following components are defined as toxic chemicals subject to reporting requirements of Section 313 of Title III and of 40 CFE 372 or subject to other EPA regulations.

COMPONENT	CAS NO.	%	TPQ (lbs)	RQ(lbs) S313	TSCA 12(b)
Isopropanol	000067-63-0	~6.00	None	None	No Yes

PRODUCT CLASSIFICATION UNDER TILE III SECTION 313 OF SARA

ACUTE:	Y
CHRONIC:	N
FIRE:	Y
REACTIVE:	N
PRESSURE:	N

16. OTHER INFORMATION

NFPA HAZARD RATING (NATIONAL FIRE PROTECTION ASSOCIATION)

FIRE:	2
HEALTH:	3
REACTIVITY:	0

Personal Protective Equipment = X (to be specified by user depending on use conditions).

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