SAFETY DATA SHEETS

This SDS packet was issued with item:

078037215

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078912905

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

078037223 078037231 078915765

MATERIAL SAFETY DATA SHEET

FORT DODGE®

Nolvasan® Solution

Fort Dodge Laboratories
800 5th Street NW
PO Box 518
Fort Dodge, IA 50501

Emergency Telephone No.:	(515) 955-4600
General Information No.:	(515) 955-4600
Preparation Date:	May 29, 1986
Revision Date:	December 12, 1994

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 PRODUCT NAME: Nolvasan® Solution

1.2 USE: A scented disinfectant for the disinfection of inanimate objects to aid in the control of many common microbiological agents.

1.3 SIZE: 1 pint and 1 gallon containers.

1.4 SYNONYMS: Nolvasan® Scented Disinfectant, Chlorasan® Scented Disinfectant (Franklin Laboratories)

2. COMPOSITION / INFORMATION ON INGREDIENTS (Indicates active ingredient)

INGREDIENT NAME	SYNONYMS	CAS NO.	CONCENTRATION
*Chlorhexidine Diacetate	Chlorhexidine Acetate	56-95-1	2.0%
Isopropyl Alcohol	Isopropanol	67-63-0	7.9%
Scent, dye, surfactants, and other ingredients considered to be trade secrets (these are considered to be non-hazardous).	NA	NA	Balance

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

3.1 POTENTIAL HEALTH EFFECTS: Adverse health effects associated with this product are linked to the ingredient isopropyl alcohol.

3.1.1 ACUTE EFFECTS:

INHALATION: Prolonged or repeated inhalation of high concentrations of vapors may be harmful, causing irritation of the mucous membranes and upper respiratory tract, nausea, vomiting, and headache.

INGESTION: May be harmful if swallowed, causing gastrointestinal irritation, nausea, vomiting, and central nervous system effects.

SKIN: May be mildly irritating to the skin, causing drying.

EYE: Extremely irritating to the eyes.

3.1.2 TARGET ORGAN EFFECTS (SUBCHRONIC/CHRONIC): Nerves/Kidneys

3.1.3 CARCINOGENIC EFFECTS: This product is not known to be carcinogenic.

3.1.4 REPRODUCTIVE/TERATOGENIC EFFECTS: There are no adverse reproductive or teratogenic effects associated with this product. However, the effects of this product on pregnant women have not been thoroughly investigated.

Continued on Page 2

3.2 CARCINOGENICITY STATUS: This product is not known to be carcinogenic.

3.3 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Respiratory ailments or skin disorders.

4. FIRST AID MEASURES

INHALATION: Remove victim to fresh air. Administer oxygen if necessary. Seek medical attention immediately.

INGESTION: Seek medical attention immediately.

SKIN: Wash affected area thoroughly with soap and water. Consult a physician.

EYE: Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

5.1 FLASH POINT: 103.5° F **METHOD:** Open Cup

5.2 AUTOIGNITION TEMPERATURE: Not established.

5.3 FLAMMABILITY LIMITS: (limits below are for isopropyl alcohol)
LOWER LIMIT: 2.5%
UPPER LIMIT: 12%

5.4 UNUSUAL FIRE AND EXPLOSION HAZARDS: This product may release toxic vapors when subjected to fire conditions.

5.5 COMMON EXTINGUISHING METHODS: Alcohol foam, water spray, carbon dioxide, dry chemical.

5.6 FIRE FIGHTING PROCEDURES: Firefighers should take standard precautions when fighting fires involving this material, including the use of SCBA.

6. ACCIDENTAL RELEASE MEASURES

For small spills involving this product (i.e., those resulting from normal usage), wipe up the spill using paper towels or other suitable material. Wash area with water. For large spills, eliminate all sources of ignition. Contain the spill using booms, dikes, or absorbent material to prevent releases into waterways or onto land. Collect spilled material for future disposal.

7. HANDLING AND STORAGE

Store in a cool, dry place away from fire or flame. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 EXPOSURE GUIDELINES:

INGREDIENT NAME	OSHA PEL/STEL	ACGIH TLV/STEL
Isopropyl Alcohol	400 ppm/500 ppm	400 ppm/500 ppm
Chlorhexidine Acetate	NE/NE	NE/NE

Continued on Page 3

8.2 **VENTILATION:** Special ventilation provisions are not considered necessary for normal usage of this product. If large quantities are being handled, local exhaust ventilation should be provided.

8.3 **RESPIRATORY PROTECTION:** Respiratory protection is not considered necessary for normal usage of this product. If necessary, use a NIOSH-approved chemical cartridge respirator fitted with organic vapor cartridges.

8.4 **PROTECTIVE GLOVES:** Latex gloves are recommended.

8.5 **EYE PROTECTION:** Safety glasses with side shields or safety goggles are recommended.

8.6 **OTHER:** NA

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 **APPEARANCE AND ODOR:** Clear, blue, scented liquid.

9.2 **MELTING POINT:** Not established.

9.3 **BOILING POINT:** Not established.

9.4 **SPECIFIC GRAVITY / DENSITY:** 0.98

9.5 **VAPOR DENSITY:** Not established.

9.6 **VAPOR PRESSURE:** Not established.

9.7 **SOLUBILITY**
- **WATER:** Complete
- **OTHER SOLVENTS:** Not established.

9.8 **DECOMPOSITION TEMPERATURE:** Not established.

9.9 **VISCOSITY:** Not established.

9.10 **pH:** Not established.

10. STABILITY AND REACTIVITY

10.1 **STABILITY:** This product is considered stable under normal conditions.

10.2 **HAZARDOUS DECOMPOSITION PRODUCTS:** This product may release toxic vapors when subjected to fire conditions.

10.3 **CONDITIONS TO AVOID:** Avoid exposing this product to fire, flame, or excessive heat.

10.4 **MATERIALS AND SUBSTANCES TO AVOID (INCOMPATIBILITY):** Avoid contact with strong acids or bases.

11. TOXICOLOGICAL INFORMATION

11.1 **ACUTE DATA:** Toxicological data presented below is for the ingredients isopropyl alcohol and chlorhexidine diacetate.

INHALATION: Prolonged or repeated inhalation of high vapor concentrations may be harmful.

INGESTION: May be harmful if swallowed. (Isopropyl Alcohol) Oral LD50 (Rats) - 5,045 mg/Kg (Chlorhexidine Diacetate) Oral LD50 (Mouse) - 2 g/Kg.

EYES: Extremely irritating to the eyes.

SKIN: May be irritating to the skin.

Continued on Page 4

11.2 TARGET ORGAN EFFECTS DATA (SUBCHRONIC/CHRONIC): Nerves/Liver

11.3 CARCINOGENIC EFFECTS DATA: This product is not known to be carcinogenic.

11.4 MUTAGENIC EFFECTS DATA: This product is not known to be mutagenic.

11.5 REPRODUCTIVE / TERATOGENIC EFFECTS DATA: There are no adverse reproductive or teratogenic effects associated with this product. However, the effects of exposure to this product on pregnant women have not been thoroughly investigated.

12 TRANSPORT INFORMATION

12.1 U.S. DEPARTMENT OF TRANSPORTATION (DOT): This product is classified as a flammable liquid under U.S. DOT regulations. Consult DOT regulations for specific shipping requirements.

12.2 INTERNATIONAL TRANSPORTATION REGULATIONS: This product is classified as a flammable liquid under international transportation regulations. Consult international regulations for specific shipping requirements.

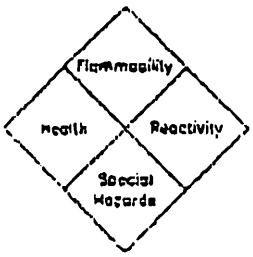
13 REGULATORY INFORMATION

13.1 FEDERAL REGULATIONS: This product is a U.S. EPA registered pesticide (EPA Reg. No. 1117-48). Waste product is classified as a hazardous waste under U.S. EPA RCRA regulations.

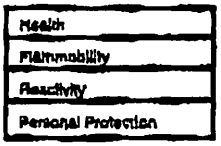
13.2 STATE REGULATIONS: NA

14 OTHER INFORMATION

14.1 HAZARD RATINGS



NFPA*:
Health - 1
Flammability - 2
Reactivity - 0
Special Hazards - NA



HMIS:
Health - 1
Flammability - 2
Reactivity -0
Personal Protection - NA

* A hazard rating has not been developed by NFPA for this product. NFPA-derived rating is based on NFPA hazard evaluation criteria.

14.2 PREPARATION AND REVISION INFORMATION

Fort Dodge Laboratories, Department of Safety

SAFETY DATA SHEET

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

Product Identifier

Material Name: Nolvasan Solution

Trade Name: NOLVASAN®
Chemical Family: Mixture
Registration Number: EPA Reg. No. 1007-99

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Intended Use: Veterinary product used as disinfectant
Restrictions on Use: Not for human use

Details of the Supplier of the Safety Data Sheet

Zoetis Inc.
100 Campus Drive, P.O. Box 651
Florham Park, New Jersey 07932 (USA)
Rocky Mountain Poison and Drug Center Phone: 1-866-531-8896
Product Support/Technical Services Phone: 1-800-366-5288

Zoetis Belgium S.A.
Mercuriusstraat 20
1930 Zaventem
Belgium

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300

Emergency telephone number:
International CHEMTREC (24 hours): +1-703-527-3887

Contact E-Mail: VMIPSrecords@zoetis.com

2. HAZARDS IDENTIFICATION

Appearance: Clear blue liquid

Classification of the Substance or Mixture

GHS - Classification

Acute Toxicity - Dusts and Mists: Category 4
Acute aquatic toxicity: Category 2
Chronic aquatic toxicity: Category 2

Label Elements

Signal Word: Warning
Hazard Statements: H332 - Harmful if inhaled
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements: P271 - Use only outdoors or in a well-ventilated area
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P273 - Avoid release to the environment
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTRE/doctor/physician if you feel unwell
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with all local and national regulations

Other Hazards

Short Term: May cause eye irritation . Signs and symptoms might include redness, swelling, blurred vision or pain. May cause slight skin irritation. (based on components) May cause mucous membrane and respiratory tract irritation. Individuals sensitive to this chemical or other materials in its chemical class may develop allergic reactions.

Australian Hazard Classification (NOHSC): Hazardous Substance. Non-Dangerous Goods.

Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Ingredient	CAS Number	EU EINECS/ELINCS List	GHS Classification	%
Chlorhexidine acetate	56-95-1	200-302-4	Acute Tox. 4 (H302) Acute Tox.2(H330) Eye Irrit.2A (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	2

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of First Aid Measures

Eye Contact: If irritation occurs or persists, get medical attention. Flush eyes with water for at least 15 minutes.

Skin Contact: Remove contaminated clothing and wash exposed area with soap and water. Obtain medical assistance if irritation occurs.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed

Notes to Physician: None

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO2, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire. May include oxides of carbon nitrogen and products of chlorine .

Fire / Explosion Hazards: Fine particles (such as dust and mists) may fuel fires/explosions.

Advice for Fire-Fighters

During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and Material for Containment and Cleaning Up

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Use with adequate ventilation. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions: Store as directed by product packaging.

Incompatible Materials: Acids and bases , As a precautionary measure, keep away from strong oxidizers

Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

No Occupational Exposure Limit (OEL) or Short Term Exposure Limit (STEL) has been identified.

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Chlorhexidine acetate

Zoetis OEB	OEB 4 (control exposure to the range of 1ug/m^3 to <10ug/m^3)

Exposure Controls

Engineering Controls:	Engineering controls should be used as the primary means to control exposures. Keep airborne contamination levels within the OEB range. General room ventilation is adequate unless the process generates dust, mist or fumes.
Personal Protective Equipment:	Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).
Hands:	Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.
Eyes:	Wear safety glasses or goggles if eye contact is possible.
Skin:	Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.
Respiratory protection:	Whenever air contamination (mist, vapor or odor) is generated, respiratory protection is recommended as a precaution to minimize exposure. If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	**Color:**	Blue
Odor:	Pleasant	**Odor Threshold:**	No data available.
Molecular Formula:	Mixture	**Molecular Weight:**	Mixture

Solvent Solubility:	No data available
Water Solubility:	Soluble
pH:	No data available.
Melting/Freezing Point (°C):	No data available
Boiling Point (°C):	No data available.

Partition Coefficient: (Method, pH, Endpoint, Value)
No data available

Decomposition Temperature (°C):	No data available.
Evaporation Rate (Gram/s):	No data available
Vapor Pressure (kPa):	No data available
Vapor Density (g/ml):	1.01
Relative Density:	No data available
Viscosity:	No data available

Flammablity:

Autoignition Temperature (Solid) (°C):	No data available
Flammability (Solids):	No data available
Flash Point (Liquid) (°C):	No data available
Upper Explosive Limits (Liquid) (% by Vol.):	No data available
Lower Explosive Limits (Liquid) (% by Vol.):	No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
Possibility of Hazardous Reactions
Oxidizing Properties: No data available
Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
Incompatible Materials: Acids and bases , As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products: Toxic fumes of carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen chloride and other chlorine-containing compounds may be emitted.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
General Information: Toxicological properties of the formulation have not been investigated. The information in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: eye contact , skin contact

Acute Toxicity: (Species, Route, End Point, Dose)

Chlorhexidine acetate
Mouse Oral LD 50 2000 mg/kg
Rat Oral LD 50 (F) 1180 / (M) 1710 mg/kg
Rat Inhalation LC 50 0.10 - 0.46 mg/L
Rabbit Dermal LD 50 > 2000 mg/kg

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.
Inhalation Acute Toxicity May be harmful if inhaled. May cause respiratory tract and mucous membrane irritation.

Irritation / Sensitization: (Study Type, Species, Severity)

Chlorhexidine acetate
Skin Irritation Rabbit Mild
Eye Irritation Rabbit Severe
Skin Sensitization - GPMT Guinea Pig Negative

Irritation / Sensitization Comments: May cause eye irritation based on components.
Skin Irritation / Sensitization May cause mild skin irritation. based on components.

Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

Chlorhexidine acetate
13 Week(s) Rabbit Dermal 500 mg/kg/day LOAEL Liver, Skin

Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

Chlorhexidine acetate

Embryo / Fetal Development	Rat	Oral	31.25	mg/kg/day	LOEL	Maternal toxicity
Embryo / Fetal Development	Rat	Oral	62.5	mg/kg/day	NOEL	No effects at maximum dose

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

11. TOXICOLOGICAL INFORMATION

Chlorhexidine acetate
Mammalian Cell Mutagenicity Mouse Lymphoma Negative
In Vitro Cytogenetics Chinese Hamster Ovary (CHO) cells Negative
In Vivo Micronucleus Rat Hepatocyte Negative

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

Product Level Toxicity Data

Inhalation ATE (Acute Toxicity Estimate), calculated	5 mg/l (dusts/mists)
Oral ATE (Acute Toxicity Estimate), calculated	>5000 mg/kg

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. The following information is available for the individual ingredients. Releases to the environment should be avoided.

Toxicity:

Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

Chlorhexidine acetate
Oncorhynchus mykiss (Rainbow Trout) NA LC50 96 Hours 1.9 ppm
Lepomis macrochirus (Bluegill Sunfish) N/A LC50 96 Hours 0.6 ppm
Daphnia Magna (Water Flea) N/A EC50 N/A 0.06 mg/L

Terrestrial Toxicity: (Species, Method, End Point, Duration, Result)

Chlorhexidine acetate
Colinus virginianus (Bobwhite Quail) N/A LD50 N/A 2013 mg/kg

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

As of January 1, 2015, materials offered for transport that are classified for transportation only as Marine Pollutants and which are packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 Liters or less for liquids or having a net mass per single or inner packaging of 5 kilograms or less for solids are NOT subject to ICAO/IATA, IMDG, or ADR transport regulations provided the general packaging requirements of those regulations are met. Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375.

UN number: UN 3082
UN proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (chlorhexidine acetate)
Transport hazard class(es): 9
Packing group: III
Environmental Hazard(s): Marine Pollutant

Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

DOT / ANTT: Not regulated for transportation

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Canada - WHMIS: Classifications
WHMIS hazard class:
Non-controlled
This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

Chlorhexidine acetate

15. REGULATORY INFORMATION

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Australia (AICS):	Present
EU EINECS/ELINCS List	200-302-4

16. OTHER INFORMATION

Text of CLP/GHS Classification abbreviations mentioned in Section 3

Acute toxicity, oral-Cat.4; H302 - Harmful if swallowed
Acute toxicity, inhalation-Cat.2; H330 - Fatal if inhaled
Serious eye damage/eye irritation-Cat.2A; H319 - Causes serious eye irritation
Hazardous to the aquatic environment, acute toxicity-Cat.1; H400 - Very toxic to aquatic life
Hazardous to the aquatic environment, chronic toxicity-Cat.1; H410 - Very toxic to aquatic life with long lasting effects

Data Sources: The data contained in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

Reasons for Revision: Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 11 - Toxicology Information. Updated Section 14 - Transport Information.

Prepared by: Toxicology and Hazard Communication
Zoetis Global Risk Management

Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

End of Safety Data Sheet

SAFETY DATA SHEET

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

Product Identifier

Material Name: Nolvasan Solution

Trade Name: NOLVASAN®
Chemical Family: Mixture
Registration Number: EPA Reg. No. 1007-99

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Intended Use: Veterinary product used as disinfectant
Restrictions on Use: Not for human use

Details of the Supplier of the Safety Data Sheet

Zoetis Inc.
100 Campus Drive, P.O. Box 651
Florham Park, New Jersey 07932 (USA)
Rocky Mountain Poison and Drug Center Phone: 1-866-531-8896
Product Support/Technical Services Phone: 1-800-366-5288

Zoetis Belgium S.A.
Mercuriusstraat 20
1930 Zaventem
Belgium

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300

Emergency telephone number:
International CHEMTREC (24 hours): +1-703-527-3887

Contact E-Mail: VMIPSrecords@zoetis.com

2. HAZARDS IDENTIFICATION

Appearance: Clear blue liquid

Classification of the Substance or Mixture

GHS - Classification

Acute Toxicity - Dusts and Mists: Category 4
Acute aquatic toxicity: Category 2
Chronic aquatic toxicity: Category 2

Label Elements

Signal Word: Warning
Hazard Statements: H332 - Harmful if inhaled
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements: P271 - Use only outdoors or in a well-ventilated area
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P273 - Avoid release to the environment
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTRE/doctor/physician if you feel unwell
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with all local and national regulations

Other Hazards

Short Term: May cause eye irritation . Signs and symptoms might include redness, swelling, blurred vision or pain. May cause slight skin irritation. (based on components) May cause mucous membrane and respiratory tract irritation. Individuals sensitive to this chemical or other materials in its chemical class may develop allergic reactions.

Australian Hazard Classification (NOHSC): Hazardous Substance. Non-Dangerous Goods.

Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Ingredient	CAS Number	EU EINECS/ELINCS List	GHS Classification	%
Chlorhexidine acetate	56-95-1	200-302-4	Acute Tox. 4 (H302) Acute Tox.2(H330) Eye Irrit.2A (H319) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	2

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the CLP/GHS abbreviations mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of First Aid Measures

Eye Contact: If irritation occurs or persists, get medical attention. Flush eyes with water for at least 15 minutes.

Skin Contact: Remove contaminated clothing and wash exposed area with soap and water. Obtain medical assistance if irritation occurs.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation: Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms and Effects of Exposure: For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

Medical Conditions Aggravated by Exposure: None known

Indication of the Immediate Medical Attention and Special Treatment Needed

Notes to Physician: None

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO2, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire. May include oxides of carbon nitrogen and products of chlorine .

Fire / Explosion Hazards: Fine particles (such as dust and mists) may fuel fires/explosions.

Advice for Fire-Fighters

During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Environmental Precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and Material for Containment and Cleaning Up

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Use with adequate ventilation. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions: Store as directed by product packaging.

Incompatible Materials: Acids and bases , As a precautionary measure, keep away from strong oxidizers

Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

No Occupational Exposure Limit (OEL) or Short Term Exposure Limit (STEL) has been identified.

The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Chlorhexidine acetate

Zoetis OEB	OEB 4 (control exposure to the range of 1ug/m^3 to <10ug/m^3)

Exposure Controls

Engineering Controls:	Engineering controls should be used as the primary means to control exposures. Keep airborne contamination levels within the OEB range. General room ventilation is adequate unless the process generates dust, mist or fumes.
Personal Protective Equipment:	Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).
Hands:	Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.
Eyes:	Wear safety glasses or goggles if eye contact is possible.
Skin:	Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.
Respiratory protection:	Whenever air contamination (mist, vapor or odor) is generated, respiratory protection is recommended as a precaution to minimize exposure. If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	**Color:**	Blue
Odor:	Pleasant	**Odor Threshold:**	No data available.
Molecular Formula:	Mixture	**Molecular Weight:**	Mixture

Solvent Solubility:	No data available
Water Solubility:	Soluble
pH:	No data available.
Melting/Freezing Point (°C):	No data available
Boiling Point (°C):	No data available.

Partition Coefficient: (Method, pH, Endpoint, Value)
No data available

Decomposition Temperature (°C):	No data available.
Evaporation Rate (Gram/s):	No data available
Vapor Pressure (kPa):	No data available
Vapor Density (g/ml):	1.01
Relative Density:	No data available
Viscosity:	No data available

Flammablity:

Autoignition Temperature (Solid) (°C):	No data available
Flammability (Solids):	No data available
Flash Point (Liquid) (°C):	No data available
Upper Explosive Limits (Liquid) (% by Vol.):	No data available
Lower Explosive Limits (Liquid) (% by Vol.):	No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
Possibility of Hazardous Reactions
Oxidizing Properties: No data available
Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
Incompatible Materials: Acids and bases , As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products: Toxic fumes of carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen chloride and other chlorine-containing compounds may be emitted.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
General Information: Toxicological properties of the formulation have not been investigated. The information in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: eye contact , skin contact

Acute Toxicity: (Species, Route, End Point, Dose)

Chlorhexidine acetate
Mouse Oral LD 50 2000 mg/kg
Rat Oral LD 50 (F) 1180 / (M) 1710 mg/kg
Rat Inhalation LC 50 0.10 - 0.46 mg/L
Rabbit Dermal LD 50 > 2000 mg/kg

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.
Inhalation Acute Toxicity May be harmful if inhaled. May cause respiratory tract and mucous membrane irritation.

Irritation / Sensitization: (Study Type, Species, Severity)

Chlorhexidine acetate
Skin Irritation Rabbit Mild
Eye Irritation Rabbit Severe
Skin Sensitization - GPMT Guinea Pig Negative

Irritation / Sensitization Comments: May cause eye irritation based on components.
Skin Irritation / Sensitization May cause mild skin irritation. based on components.

Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

Chlorhexidine acetate
13 Week(s) Rabbit Dermal 500 mg/kg/day LOAEL Liver, Skin

Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

Chlorhexidine acetate

Embryo / Fetal Development	Rat	Oral	31.25	mg/kg/day	LOEL	Maternal toxicity
Embryo / Fetal Development	Rat	Oral	62.5	mg/kg/day	NOEL	No effects at maximum dose

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

11. TOXICOLOGICAL INFORMATION

Chlorhexidine acetate
Mammalian Cell Mutagenicity Mouse Lymphoma Negative
In Vitro Cytogenetics Chinese Hamster Ovary (CHO) cells Negative
In Vivo Micronucleus Rat Hepatocyte Negative

Carcinogen Status: None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

Product Level Toxicity Data

Inhalation ATE (Acute Toxicity Estimate), calculated	5 mg/l (dusts/mists)
Oral ATE (Acute Toxicity Estimate), calculated	>5000 mg/kg

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. The following information is available for the individual ingredients. Releases to the environment should be avoided.

Toxicity:

Aquatic Toxicity: (Species, Method, End Point, Duration, Result)

Chlorhexidine acetate
Oncorhynchus mykiss (Rainbow Trout) NA LC50 96 Hours 1.9 ppm
Lepomis macrochirus (Bluegill Sunfish) N/A LC50 96 Hours 0.6 ppm
Daphnia Magna (Water Flea) N/A EC50 N/A 0.06 mg/L

Terrestrial Toxicity: (Species, Method, End Point, Duration, Result)

Chlorhexidine acetate
Colinus virginianus (Bobwhite Quail) N/A LD50 N/A 2013 mg/kg

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

As of January 1, 2015, materials offered for transport that are classified for transportation only as Marine Pollutants and which are packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 Liters or less for liquids or having a net mass per single or inner packaging of 5 kilograms or less for solids are NOT subject to ICAO/IATA, IMDG, or ADR transport regulations provided the general packaging requirements of those regulations are met. Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375.

UN number: UN 3082
UN proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (chlorhexidine acetate)
Transport hazard class(es): 9
Packing group: III
Environmental Hazard(s): Marine Pollutant

Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

DOT / ANTT: Not regulated for transportation

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Canada - WHMIS: Classifications
WHMIS hazard class:
Non-controlled
This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

Chlorhexidine acetate

15. REGULATORY INFORMATION

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Australia (AICS):	Present
EU EINECS/ELINCS List	200-302-4

16. OTHER INFORMATION

Text of CLP/GHS Classification abbreviations mentioned in Section 3

Acute toxicity, oral-Cat.4; H302 - Harmful if swallowed
Acute toxicity, inhalation-Cat.2; H330 - Fatal if inhaled
Serious eye damage/eye irritation-Cat.2A; H319 - Causes serious eye irritation
Hazardous to the aquatic environment, acute toxicity-Cat.1; H400 - Very toxic to aquatic life
Hazardous to the aquatic environment, chronic toxicity-Cat.1; H410 - Very toxic to aquatic life with long lasting effects

Data Sources: The data contained in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

Reasons for Revision: Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 11 - Toxicology Information. Updated Section 14 - Transport Information.

Prepared by: Toxicology and Hazard Communication
Zoetis Global Risk Management

Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

End of Safety Data Sheet