

# SAFETY DATA SHEET



Revision date: 03-Jun-2014

Version: 2.5

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## 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 Control 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  
**Contact E-Mail:** VMIPSrecords@zoetis.com

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

## 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

#### EU Classification:

EU Indication of danger: T - Toxic  
N - Dangerous for the environment

#### EU Risk Phrases:

R23 - Toxic by inhalation.  
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Label Elements

**Signal Word:** Warning

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

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### 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 be harmful if swallowed. May cause eye and skin irritation (based on components)  
Individuals sensitive to this chemical or other materials in its chemical class may develop allergic reactions.

### Australian Hazard Classification (NOHSC):

Hazardous Substance. 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	EU Classification	GHS Classification	%
Chlorhexidine acetate	56-95-1	200-302-4	Xn;R22 Xi;R36 T+;R26 N;R50	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.

For the full text of the R phrases and 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.

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**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 bromine

**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

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<b>Storage Conditions:</b>	Store as directed by product packaging.
<b>Incompatible Materials:</b>	Acids and bases , As a precautionary measure, keep away from strong oxidizers
<b>Specific end use(s):</b>	No data available

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Control Parameters

**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<sup>3</sup> to <10ug/m<sup>3</sup>)

#### 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:

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

#### Flammability:

##### Autoignition Temperature (Solid) (°C):

No data available

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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 or corrosive oxides of carbon and nitrogen.

## 11. TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

**General Information:** Toxicological properties of the formulation have not been investigated. The information included in this section describes the potential hazards of the individual ingredients.

### 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.

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

#### Chlorhexidine acetate

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

### 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
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### 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)

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### 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

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

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

##### Chlorhexidine acetate

<i>Colinus virginianus</i> (Bobwhite Quail)	N/A	LD50	N/A	2013 mg/kg
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**Persistence and Degradability:**                      No data available

**Bio-accumulative Potential:**                      No data available

**Mobility in Soil:**                      No data available

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### 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

The following refers to all modes of transportation unless specified below.

The following refers to all categories of classifications unless specified below.  
Transport according to the requirements of the appropriate regulatory body.

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

**DOT**

DOT Proper shipping name: Not regulated

### 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 MSDS contains all of the information required by the CPR.

**Chlorhexidine acetate**

CERCLA/SARA 313 Emission reporting

Not Listed

California Proposition 65

Not Listed

Australia (AICS):

Present

EU EINECS/ELINCS List

200-302-4

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### 16. OTHER INFORMATION

#### Text of R phrases and 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

Xn - Harmful  
Xi - Irritant  
T+ - Very toxic  
N - Dangerous for the environment

R22 - Harmful if swallowed.  
R36 - Irritating to eyes.  
R26 - Very toxic by inhalation.  
R50 - Very toxic to aquatic organisms.

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

**Reasons for Revision:** Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking.  
Updated Section 4 - First Aid Measures. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 11 - Toxicology Information. Updated Section 15 - Regulatory 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**