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

Product Identifier

Material Name: Nolvasan Surgical Scrub

Nolvasan **Trade Name: Chemical Family:** Mixture

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

Veterinary product (antimicrobial) Intended Use:

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 viscous 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: Toxic

Dangerous for the Environment

EU Symbol: ΤN

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

Warning Signal Word:

Hazard Statements: H332 - Harmful if inhaled

H411 - Toxic to aquatic life with long lasting effects

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Precautionary Statements: P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

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 ČENTRE/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:
Australian Hazard Classification
(NOHSC):

May cause eye, skin and respiratory tract irritation 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	EU Classification	GHS Classification	%
Propylene glycol	57-55-6	200-338-0	Not Listed	Not Listed	5
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
Diethanolamine	111-42-2	203-868-0	Xn; R22-48/22 Xi; R38-41	Acute Tox. 4 (H302) STOT RE 2 (H373) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)	<1
Hydrochloric Acid	7647-01-0	231-595-7	T; R23 C; R35	STOT SE 3 (H335) Skin Corr. 1A (H314) Press. Gas Acute Tox. 3 (H331)	** / ##

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Ingredient	CAS Number	EU EINECS/ELINCS List	EU Classification	GHS Classification	%
FD & C Blue No. 1	3844-45-9	223-339-8	Not Listed	Not Listed	<0.1

Additional Information: ** to adjust pH

Trace

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: Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention

immediately.

Skin Contact: Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek

medical attention.

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 For information on potential signs and symptoms of exposure, See Section 2 - Hazards

Exposure: Identification and/or Section 11 - Toxicological Information.

Medical Conditions None known

Aggravated by Exposure:

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 Formation of toxic gases is possible during heating or fire.

Products:

Fire / Explosion Hazards: Not flammable.

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

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.

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Methods and Material for Containment and Cleaning Up

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

Collecting: area thoroughly.

Additional Consideration for Non-essential personnel should be evacuated from affected area. Report emergency

Large Spills: situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

Precautions for Safe Handling

When handling, use proper personal protective equipment as specified in Section 8. Avoid breathing dust, vapor or mist. Avoid contact with eyes, skin and clothing. 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 at room temperature in properly labeled containers. Keep away from heat, sparks and

flames.

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

Specific end use(s): Veterinary antimicrobial

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Refer to available public information for specific member state Occupational Exposure Limits.

Propylene glycol

Australia TWA 150 ppm

474 mg/m³ 10 mg/m³

Ireland OEL - TWAs 150 ppm

470 mg/m³ 10 mg/m³

Latvia OEL - TWA 7 mg/m³
Lithuania OEL - TWA 7 mg/m³

Diethanolamine

ACGIH Threshold Limit Value (TWA) 1 mg/m³

ACGIH - Skin Absorption Designation Skin - potential significant contribution to overall exposure by the

cutaneous route

Australia TWA 3 ppm

13 mg/m³

Austria OEL - MAKs 0.46 ppm

2 mg/m³ 0.46 ppm

Belgium OEL - TWA 0.46 ppm 2 mg/m³

Bulgaria OEL - TWA 10 mg/m³
Czech Republic OEL - TWA 5 mg/m³
Denmark OEL - TWA 0.46 ppm 2 mg/m³

Estonia OEL - TWA 3 ppm

5 mg/m³

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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	Finland OEL - TWA	0.46 ppm
		2 mg/m ³
	France OEL - TWA	3 ppm
		15 mg/m ³
	Germany (DFG) - MAK	1 mg/m ³
	Greece OEL - TWA	3 ppm
		15 mg/m ³
	Ireland OEL - TWAs	1 mg/m ³
	Lithuania OEL - TWA	3 ppm
		15 mg/m ³
	Poland OEL - TWA	9 mg/m ³
	Portugal OEL - TWA	2 mg/m ³
	Slovenia OEL - TWA	15 mg/m ³
	Spain OEL - TWA	0.46 ppm
	Opa G =1	2 mg/m ³
	Sweden OEL - TWAs	3 ppm
		15 mg/m ³
	Switzerland OEL -TWAs	1 mg/m ³
		3
Hvdr	ochloric Acid	
,	ACGIH Ceiling Threshold Limit:	2 ppm
	Australia PEAK	5 ppm
	7.11.5.11.4.11.4.1.	7.5 mg/m ³
	Austria OEL - MAKs	5 ppm
		8 mg/m ³
	Belgium OEL - TWA	5 ppm
	g	8 mg/m ³
	Bulgaria OEL - TWA	8.0 mg/m ³
		5 ppm
	Cyprus OEL - TWA	5 ppm
	<i>"</i>	8 mg/m ³
	Czech Republic OEL - TWA	8 mg/m ³
	Estonia OEL - TWA	5 ppm
		8 mg/m ³
	Germany - TRGS 900 - TWAs	2 ppm
	•	3 mg/m ³
	Germany (DFG) - MAK	2 ppm
		3.0 mg/m^3
	Greece OEL - TWA	5 ppm
		7 mg/m ³
	Hungary OEL - TWA	8 mg/m ³
	Ireland OEL - TWAs	5 ppm
		8 mg/m ³
	Italy OEL - TWA	5 ppm
		8 mg/m ³
	Japan - OELs - Ceilings	5 ppm
		7.5 mg/m^3
	Latvia OEL - TWA	5 ppm
		8 mg/m ³
	Lithuania OEL - TWA	5 ppm
		8 mg/m ³
	Luxembourg OEL - TWA	5 ppm
		8 mg/m ³

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Malta OEL - TWA 5 ppm 8 mg/m³ 8 mg/m³ **Netherlands OEL - TWA** 5 mg/m³ Vietnam OEL - TWAs 5 mg/m³ Poland OEL - TWA 5 ppm Romania OEL - TWA 8 mg/m³ 5 ppm Slovakia OEL - TWA 8.0 mg/m³

Slovenia OEL - TWA 5 ppm 8 mg/m³ Spain OEL - TWA 5 ppm 7.6 mg/m³

Switzerland OEL -TWAs 2 ppm 3.0 mg/m³

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/m³ to <10ug/m³)

Exposure Controls

Engineering Controls: Engineering controls should be used as the primary means to control exposures. Keep air

contamination levels below the exposure limits or within the OEB range listed above in this

section.

Personal Protective

Refer to applicable national standards and regulations in the selection and use of personal **Equipment:**

protective equipment (PPE).

Wear impervious gloves if skin contact is possible. Hands:

Eyes: Safety glasses or goggles

Skin: Use protective clothing (uniforms, lab coats, disposable coveralls, etc.) in both production and

laboratory areas.

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. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

9. PHYSICAL AND CHEMICAL PROPERTIES

Clear blue **Physical State:** Viscous Liquid Color: No data available. Odor: Pleasant **Odor Threshold:**

Molecular Formula: Mixture **Molecular Weight:** Mixture

No data available **Solvent Solubility:**

Water Solubility: Soluble

No data available. pH: **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.

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Evaporation Rate (Gram/s):

Vapor Pressure (kPa):

Vapor Density (g/ml):

No data available

No data available

Relative Density: 1.02

Viscosity: No data available

Flammablity:

Autoİgnition Temperature (Solid) (°C):

Flammability (Solids):

Flash Point (Liquid) (°C):

Upper Explosive Limits (Liquid) (% by Vol.):

Lower Explosive Limits (Liquid) (% by Vol.):

No data available
No data available
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, Bases, As a precautionary measure, keep away from strong oxidizers

Hazardous Decomposition Thermal decomposition products may include carbon monoxide, carbon dioxide and other toxic

Products: vapors.

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/kgRat Inhalation LC 50 0.10 - 0.46 mg/LRabbit Dermal LD 50 > 2000 mg/kg

Propylene glycol

Rat Oral LD 50 22,000 mg/kg

Mouse Oral LD 50 24,900mg/kg

Rabbit Dermal LD 50 20,800mg/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

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11. TOXICOLOGICAL INFORMATION

Skin Sensitization - GPMT Guinea Pig

Hydrochloric Acid

Skin Irritation Severe Eye Irritation Severe

Propylene glycol

Skin Irritation Rabbit Mild Eye Irritation Rabbit Mild

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

31.25 mg/kg/day Maternal toxicity Embryo / Fetal Development Rat Oral LOEL

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

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

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: See below

Hydrochloric Acid

IARC: Group 3 (Not Classifiable)

Diethanolamine

IARC: Group 2B (Possibly Carcinogenic to Humans)

FD & C Blue No. 1

IARC: Group 3 (Not Classifiable)

Product Level Toxicity Data

Acute Toxicity Estimate (ATE), >5000 mg/kg

Acute Toxicity Estimate (ATE), 5 mg/l inhalation (dust/mist)

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12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. In the environment,

the active ingredient in this formulation is expected to bind tightly to soil and sediment, and persist. Harm to aquatic organisms is expected. Releases to the environment should be

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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

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: |||

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.

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DOT / ANTT: Not regulated for transportation

U.S. DOT Reportable Quantity (RQ), 49 CFR 172.101 Appendix A:

Diethanolamine

CERCLA/SARA Hazardous Substances 100 lb and their Reportable Quantities: 45.4 kg

Hydrochloric Acid

CERCLA/SARA Hazardous Substances 5000 lb and their Reportable Quantities: 2270 kg

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.

Propylene glycol

CERCLA/SARA 313 Emission reporting

California Proposition 65

Inventory - United States TSCA - Sect. 8(b)

Australia (AICS):

Present

EU EINECS/ELINCS List

Not Listed

Not

Chlorhexidine acetate

CERCLA/SARA 313 Emission reporting

California Proposition 65

Australia (AICS):

Present

EU EINECS/ELINCS List

200-302-4

Diethanolamine

CERCLA/SARA 313 Emission reporting 1.0 %
CERCLA/SARA Hazardous Substances 100 lb
and their Reportable Quantities: 45.4 kg

California Proposition 65 carcinogen initial date 6/22/12

Inventory - United States TSCA - Sect. 8(b)PresentAustralia (AICS):PresentStandard for the Uniform SchedulingSchedule 5for Drugs and Poisons:Schedule 6EU EINECS/ELINCS List203-868-0

Hydrochloric Acid

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15. REGULATORY INFORMATION

CERCLA/SARA 313 Emission reporting 1.0 %
CERCLA/SARA Hazardous Substances 5000 lb
and their Reportable Quantities: 2270 kg
CERCLA/SARA - Section 302 Extremely Hazardous 500 lb

TPQs

CERCLA/SARA - Section 302 Extremely Hazardous 5000 lb

Substances EPCRA RQs

California Proposition 65
Inventory - United States TSCA - Sect. 8(b)
Australia (AICS):
Standard for the Uniform Scheduling
for Drugs and Poisons:
Schedule 6
EU EINECS/ELINCS List
Not Listed
Present
Schedule 5
Schedule 6
EU 231-595-7

FD & C Blue No. 1

CERCLA/SARA 313 Emission reporting

California Proposition 65

Inventory - United States TSCA - Sect. 8(b)

Australia (AICS):

Present

EU EINECS/ELINCS List

Not Listed

Not Listed

Not Listed

Present

223-339-8

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

Specific target organ toxicity, repeated exposure-Cat.2; H373 - May cause damage to organs through prolonged or repeated exposure Skin corrosion/irritation-Cat.2; H315 - Causes skin irritation

Serious eye damage/eye irritation-Cat.1; H318 - Causes serious eye damage

Specific target organ toxicity, single exposure; Respiratory tract irritation-Cat.3; H335 - May cause respiratory irritation

Skin corrosion/irritation-Cat.1A; H314 - Causes severe skin burns and eye damage

Acute toxicity, inhalation-Cat.3; H331 - Toxic if inhaled

T+ - Very toxic

Xn - Harmful

Xi - Irritant

N - Dangerous for the environment

C - Corrosive

T - Toxic

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R22 - Harmful if swallowed. R26 - Very toxic by inhalation.

R36 - Irritating to eyes.

R50 - Very toxic to aquatic organisms.

R23 - Toxic by inhalation. R35 - Causes severe burns. R38 - Irritating to skin.

R41 - Risk of serious damage to eyes.

R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.

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 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 5 - Fire Fighting Measures. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 11 - Toxicology Information. Updated Section 12 - Ecological Information. Updated Section 14 - Transport Information. Updated Section 16 -

Other 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