

SAFETY DATA SHEETS

This SDS packet was issued with item:

078360148

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

078037199

SAFETY DATA SHEET



Revision date: 29-May-2015

Version: 2.0

Page 1 of 10

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

Product Identifier

Material Name: Nolvasan Otic

Trade Name: NOLVASAN®
Synonyms: Nolvasan Otic Cleansing Solution
Chemical Family: Mixture

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

Intended Use: Veterinary product
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
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

Flammable liquids- Category 3

EU Classification:

EU Symbol: None required
EU Risk Phrases: R10 - Flammable.

Label Elements

Signal Word: Warning
Hazard Statements: H226 - Flammable liquid and vapor

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 2 of 10
Version: 2.0

Precautionary Statements:

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting/equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P370 + P378 - In case of fire: Use dry chemical, CO₂, foam, or water spray for extinction
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/container in accordance with all local and national regulations



Other Hazards

Short Term:

Vapors may cause drowsiness and dizziness. May cause respiratory tract irritation. May cause eye irritation. May cause slight skin irritation.

Long Term:

May cause effects on liver, kidneys through prolonged or repeated exposure.

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 | % |
|-------------------|------------|-----------------------|--------------------------|---|---|
| Isopropyl alcohol | 67-63-0 | 200-661-7 | F; R11 Xi; R36 R67 | STOT SE 3 (H336) Flam. Liq. 2 (H225) Eye Irrit. 2A (H319) | 5 |

| Ingredient | CAS Number | EU EINECS/ELINCS List | EU Classification | GHS Classification | % |
|---------------------------|-------------|-----------------------|-------------------|--------------------|----|
| Non-hazardous ingredients | Proprietary | Not Listed | Not Listed | Not Listed | 95 |

Additional Information:

Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. For one or more ingredients, the chemical identity has been withheld as a trade secret.

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

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 3 of 10
Version: 2.0

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 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 or foam.

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: | Flammable liquid and vapor . Vapors will form flammable or explosive mixtures with air at room temperature. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. 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 the spill if it is safe to do so. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding procedures. Use non-combustible absorbent material to wipe up spill and place in a sealed container for disposal. Clean contaminated surface thoroughly. |
|--|---|

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 4 of 10
Version: 2.0

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. Contain the source of the spill or leak if it is safe to do so. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding procedures. Collect spill with a non-combustible absorbent material and transfer to labeled container for disposal. Clean spill area thoroughly.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Flammable. Flammable liquid and vapor- keep away from ignition sources and clean up spills promptly. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding and bonding procedures. Avoid contact with eyes, skin, and clothing. Use appropriate personal protective equipment. Wash thoroughly after handling. Take precautionary measures against static discharges. Use with adequate ventilation. Avoid breathing vapor or mist. 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: Keep in a cool, well-ventilated place. Keep away from heat, sparks, flame, and other sources of ignition.

Incompatible Materials: Acids, bases, and oxidizers

Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

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

Isopropyl alcohol

| | |
|--------------------------------------|-------------------------|
| ACGIH Threshold Limit Value (TWA) | 200 ppm |
| ACGIH Threshold Limit Value (STEL) | 400 ppm |
| ACGIH - Biological Exposure Limit: | 40 mg/L |
| Australia STEL | 500 ppm |
| | 1230 mg/m ³ |
| Australia TWA | 400 ppm |
| | 983 mg/m ³ |
| Austria OEL - MAKs | 200 ppm |
| | 500 mg/m ³ |
| Belgium OEL - TWA | 200 ppm |
| | 500 mg/m ³ |
| Bulgaria OEL - TWA | 980.0 mg/m ³ |
| Czech Republic OEL - TWA | 500 mg/m ³ |
| Denmark OEL - TWA | 200 ppm |
| | 490 mg/m ³ |
| Estonia OEL - TWA | 150 ppm |
| | 350 mg/m ³ |
| Finland OEL - TWA | 200 ppm |
| | 500 mg/m ³ |
| Germany - TRGS 900 - TWAs | 200 ppm |
| | 500 mg/m ³ |
| Germany (DFG) - MAK | 200 ppm |
| | 500 mg/m ³ |
| Germany - Biological Exposure Limit: | 25 mg/L |

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 5 of 10
Version: 2.0

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|--------------------------------------|----------------------------------|
| Greece OEL - TWA | 400 ppm 980 mg/m ³ |
| Hungary OEL - TWA | 500 mg/m ³ |
| Ireland OEL - TWAs | 200 ppm |
| Japan - OELs - Ceilings | 400 ppm 980 mg/m ³ |
| Latvia OEL - TWA | 350 mg/m ³ |
| Lithuania OEL - TWA | 150 ppm 350 mg/m ³ |
| OSHA - Final PELs - TWAs: | 400 ppm 980 mg/m ³ |
| Poland OEL - TWA | 900 mg/m ³ |
| Portugal OEL - TWA | 200 ppm |
| Romania OEL - TWA | 81 ppm 200 mg/m ³ |
| Romania - Biological Exposure Limit: | 50 mg/L |
| Slovakia OEL - TWA | 200 ppm 500 mg/m ³ |
| Slovenia OEL - TWA | 200 ppm 500 mg/m ³ |
| Spain OEL - TWA | 200 ppm 500 mg/m ³ |
| Spain - Biological Exposure Limit: | 40 mg/L |
| Sweden OEL - TWAs | 150 ppm 350 mg/m ³ |
| Switzerland OEL -TWAs | 200 ppm 500 mg/m ³ |

Exposure Controls

Engineering Controls:

Engineering controls should be used as the primary means to control exposures. Keep airborne contamination levels below the exposure limits listed above in this section. General room ventilation is adequate unless the process generates dust, mist or aerosols.

Personal Protective Equipment:

Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Hands:

Wear impervious gloves if skin contact is possible.

Eyes:

Safety glasses or goggles

Skin:

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

Respiratory protection:

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

Physical State:

Liquid

Odor:

No data available.

Molecular Formula:

Mixture

Color:

Blue

Odor Threshold:

No data available.

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.

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SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 6 of 10
Version: 2.0

9. PHYSICAL AND CHEMICAL PROPERTIES

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): 4.4 kPa / 33 mm Hg at 22°C

Vapor Density (g/ml): 2.07

Relative Density: 1

Viscosity: No data available

Flammability:

Autoignition Temperature (Solid) (°C): No data available

Flammability (Solids): No data available

Flash Point (Liquid) (°C): 48.9°C / 120°F (Open cup)

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: Extremes of temperature and direct sunlight. Keep away from heat, spark, flames and all other sources of ignition. Fine particles (such as mists) may fuel fires/explosions.

Incompatible Materials: Acids, bases, and 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 in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: eye contact, skin contact, inhalation

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

Isopropyl alcohol

Rat Oral LD50 > 2000 mg/kg

Mouse Oral LD50 3600 mg/kg

Rat Inhalation LC50-8h 16,000 ppm

Rabbit Dermal LD50 12800 mg/kg

Rat Inhalation LC50 30mg/L

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 Inhalation of high concentrations or repeated exposure to isopropanol may cause central nervous system effects such as headache, dizziness and drowsiness.

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

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 7 of 10
Version: 2.0

11. TOXICOLOGICAL INFORMATION

Isopropyl alcohol

Eye Irritation Rabbit Severe
Skin Irritation Rabbit Mild

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

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

Isopropyl alcohol

20 Week(s) Rat Inhalation 4000 ppm NOAEL Liver, Central nervous system
104 Week(s) Rat Inhalation 5000 ppm Kidney

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

Isopropyl alcohol

Prenatal & Postnatal Development Rat Inhalation 7,000 ppm LOAEL Maternal toxicity, Fetotoxicity, Embryotoxicity
2 Generation Reproductive Toxicity Rat Oral 1000 mg/kg/day LOAEL Maternal Toxicity, Fetal mortality
Prenatal & Postnatal Development Rat Oral 1200 mg/kg/day NOAEL No effects at maximum dose

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

Isopropyl alcohol

Bacterial Mutagenicity (Ames) *Salmonella* Negative
Mammalian Cell Mutagenicity HGPRT Chinese Hamster Ovary (CHO) cells Negative
In Vitro Sister Chromatid Exchange Negative

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

Isopropyl alcohol

IARC: Group 3 (Not Classifiable)

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. Releases to the environment should be avoided.

Toxicity: No data available

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 8 of 10
Version: 2.0

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

Waste of this product may qualify as a RCRA Hazardous Waste. Status should be confirmed by testing for RCRA hazardous characteristics (i.e. corrosivity, toxicity, reactivity, or ignitability). 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

Domestically-non-restricted (alcohol content L/T 25%)
Transport according to the requirements of the appropriate regulatory body.

UN number: UN 1993
UN proper shipping name: Flammable liquid, n.o.s. (contains isopropanol)
Transport hazard class(es): 3 (Flammable liquid)
Packing group: III
Flash Point (°C): 48.9°C / 120°F

Please refer to the applicable dangerous goods regulations for additional information. See "excepted quantity" provisions if applicable.

IATA / ICAO

IATA UN / ID No: UN 1993
IATA Proper shipping name: Flammable Liquid, n.o.s. (contains isopropanol)
IATA Hazard Class: 3
IATA Packing Group: III

IMDG IMDG

IMDG UN / ID No: UN 1993
IMDG Proper shipping name: Flammable Liquid, n.o.s.
IMDG Technical Shipping Name: Flammable liquid, n.o.s. (contains isopropanol)
IMDG Hazard Class: 3
IMDG Packing Group: III
Flash Point (°C): 48.9°C / 120°F

ADR/RID

ADR / RID UN / ID No: UN 1993
ADR/RID Proper shipping name: Flammable Liquid, n.o.s.
ADR / RID Hazard Class: 3
ADR / RID Packing Group: III
ADR / RID Item Number: UN 1993

DOT : Not regulated for transportation

15. REGULATORY INFORMATION

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

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 9 of 10
Version: 2.0

15. REGULATORY INFORMATION

Canada - WHMIS: Classifications

WHMIS hazard class:

Class B, Division 3

Class D, Division 2, and Subdivision B.

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.



Isopropyl alcohol

| | |
|---|------------|
| CERCLA/SARA 313 Emission reporting | 1.0 % |
| California Proposition 65 | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present |
| Australia (AICS): | Present |
| EU EINECS/ELINCS List | 200-661-7 |

Non-hazardous ingredients

| | |
|------------------------------------|------------|
| CERCLA/SARA 313 Emission reporting | Not Listed |
| California Proposition 65 | Not Listed |
| EU EINECS/ELINCS List | Not Listed |

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, single exposure; Narcotic effects-Cat.3; H336 - May cause drowsiness and dizziness

Flammable liquids-Cat.2; H225 - Highly flammable liquid and vapor

Xn - Harmful

Xi - Irritant

T+ - Very toxic

N - Dangerous for the environment

F - Highly flammable

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 10 of 10
Version: 2.0

R22 - Harmful if swallowed.
R36 - Irritating to eyes.
R26 - Very toxic by inhalation.
R50 - Very toxic to aquatic organisms.
R11 - Highly flammable.
R67 - Vapors may cause drowsiness and dizziness.

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 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 6 - Accidental Release Measures. Updated Section 7 - Handling and Storage. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 10 - Stability and Reactivity. Updated Section 11 - Toxicology Information. Updated Section 13 - Disposal Considerations. Updated Section 14 - Transport Information. Updated Section 15 - Regulatory 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

SAFETY DATA SHEET



Revision date: 29-May-2015

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Page 1 of 10

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

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Trade Name: NOLVASAN®
Synonyms: Nolvasan Otic Cleansing Solution
Chemical Family: Mixture

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Intended Use: Veterinary product
Restrictions on Use: Not for human use

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Florham Park, New Jersey 07932 (USA)
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Label Elements

Signal Word: Warning
Hazard Statements: H226 - Flammable liquid and vapor

SAFETY DATA SHEET

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Page 2 of 10
Version: 2.0

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P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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Other Hazards

Short Term:

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|---------------------------|-------------|-----------------------|-------------------|--------------------|----|
| Non-hazardous ingredients | Proprietary | Not Listed | Not Listed | Not Listed | 95 |

Additional Information:

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SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 3 of 10
Version: 2.0

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| 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 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 or foam.

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: | Flammable liquid and vapor . Vapors will form flammable or explosive mixtures with air at room temperature. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. 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 the spill if it is safe to do so. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding procedures. Use non-combustible absorbent material to wipe up spill and place in a sealed container for disposal. Clean contaminated surface thoroughly. |
|--|---|

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 4 of 10
Version: 2.0

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. Contain the source of the spill or leak if it is safe to do so. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding procedures. Collect spill with a non-combustible absorbent material and transfer to labeled container for disposal. Clean spill area thoroughly.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Flammable. Flammable liquid and vapor- keep away from ignition sources and clean up spills promptly. Eliminate possible ignition sources (e.g., heat, sparks, flame, impact, friction, electricity), and follow appropriate grounding and bonding procedures. Avoid contact with eyes, skin, and clothing. Use appropriate personal protective equipment. Wash thoroughly after handling. Take precautionary measures against static discharges. Use with adequate ventilation. Avoid breathing vapor or mist. 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: Keep in a cool, well-ventilated place. Keep away from heat, sparks, flame, and other sources of ignition.

Incompatible Materials: Acids, bases, and oxidizers

Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

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

Isopropyl alcohol

| | |
|--------------------------------------|-------------------------|
| ACGIH Threshold Limit Value (TWA) | 200 ppm |
| ACGIH Threshold Limit Value (STEL) | 400 ppm |
| ACGIH - Biological Exposure Limit: | 40 mg/L |
| Australia STEL | 500 ppm |
| | 1230 mg/m ³ |
| Australia TWA | 400 ppm |
| | 983 mg/m ³ |
| Austria OEL - MAKs | 200 ppm |
| | 500 mg/m ³ |
| Belgium OEL - TWA | 200 ppm |
| | 500 mg/m ³ |
| Bulgaria OEL - TWA | 980.0 mg/m ³ |
| Czech Republic OEL - TWA | 500 mg/m ³ |
| Denmark OEL - TWA | 200 ppm |
| | 490 mg/m ³ |
| Estonia OEL - TWA | 150 ppm |
| | 350 mg/m ³ |
| Finland OEL - TWA | 200 ppm |
| | 500 mg/m ³ |
| Germany - TRGS 900 - TWAs | 200 ppm |
| | 500 mg/m ³ |
| Germany (DFG) - MAK | 200 ppm |
| | 500 mg/m ³ |
| Germany - Biological Exposure Limit: | 25 mg/L |

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 5 of 10
Version: 2.0

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|--------------------------------------|----------------------------------|
| Greece OEL - TWA | 400 ppm 980 mg/m ³ |
| Hungary OEL - TWA | 500 mg/m ³ |
| Ireland OEL - TWAs | 200 ppm |
| Japan - OELs - Ceilings | 400 ppm 980 mg/m ³ |
| Latvia OEL - TWA | 350 mg/m ³ |
| Lithuania OEL - TWA | 150 ppm 350 mg/m ³ |
| OSHA - Final PELs - TWAs: | 400 ppm 980 mg/m ³ |
| Poland OEL - TWA | 900 mg/m ³ |
| Portugal OEL - TWA | 200 ppm |
| Romania OEL - TWA | 81 ppm 200 mg/m ³ |
| Romania - Biological Exposure Limit: | 50 mg/L |
| Slovakia OEL - TWA | 200 ppm 500 mg/m ³ |
| Slovenia OEL - TWA | 200 ppm 500 mg/m ³ |
| Spain OEL - TWA | 200 ppm 500 mg/m ³ |
| Spain - Biological Exposure Limit: | 40 mg/L |
| Sweden OEL - TWAs | 150 ppm 350 mg/m ³ |
| Switzerland OEL -TWAs | 200 ppm 500 mg/m ³ |

Exposure Controls

Engineering Controls:

Engineering controls should be used as the primary means to control exposures. Keep airborne contamination levels below the exposure limits listed above in this section. General room ventilation is adequate unless the process generates dust, mist or aerosols.

Personal Protective Equipment:

Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Hands:

Wear impervious gloves if skin contact is possible.

Eyes:

Safety glasses or goggles

Skin:

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

Respiratory protection:

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

Physical State:

Liquid

Odor:

No data available.

Molecular Formula:

Mixture

Color:

Blue

Odor Threshold:

No data available.

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.

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SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 6 of 10
Version: 2.0

9. PHYSICAL AND CHEMICAL PROPERTIES

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): 4.4 kPa / 33 mm Hg at 22°C

Vapor Density (g/ml): 2.07

Relative Density: 1

Viscosity: No data available

Flammability:

Autoignition Temperature (Solid) (°C): No data available

Flammability (Solids): No data available

Flash Point (Liquid) (°C): 48.9°C / 120°F (Open cup)

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: Extremes of temperature and direct sunlight. Keep away from heat, spark, flames and all other sources of ignition. Fine particles (such as mists) may fuel fires/explosions.

Incompatible Materials: Acids, bases, and 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 in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: eye contact, skin contact, inhalation

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

Isopropyl alcohol

Rat Oral LD50 > 2000 mg/kg

Mouse Oral LD50 3600 mg/kg

Rat Inhalation LC50-8h 16,000 ppm

Rabbit Dermal LD50 12800 mg/kg

Rat Inhalation LC50 30mg/L

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 Inhalation of high concentrations or repeated exposure to isopropanol may cause central nervous system effects such as headache, dizziness and drowsiness.

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

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 7 of 10
Version: 2.0

11. TOXICOLOGICAL INFORMATION

Isopropyl alcohol

Eye Irritation Rabbit Severe
Skin Irritation Rabbit Mild

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

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

Isopropyl alcohol

20 Week(s) Rat Inhalation 4000 ppm NOAEL Liver, Central nervous system
104 Week(s) Rat Inhalation 5000 ppm Kidney

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

Isopropyl alcohol

Prenatal & Postnatal Development Rat Inhalation 7,000 ppm LOAEL Maternal toxicity, Fetotoxicity, Embryotoxicity
2 Generation Reproductive Toxicity Rat Oral 1000 mg/kg/day LOAEL Maternal Toxicity, Fetal mortality
Prenatal & Postnatal Development Rat Oral 1200 mg/kg/day NOAEL No effects at maximum dose

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

Isopropyl alcohol

Bacterial Mutagenicity (Ames) *Salmonella* Negative
Mammalian Cell Mutagenicity HGPRT Chinese Hamster Ovary (CHO) cells Negative
In Vitro Sister Chromatid Exchange Negative

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

Isopropyl alcohol

IARC: Group 3 (Not Classifiable)

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. Releases to the environment should be avoided.

Toxicity: No data available

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 8 of 10
Version: 2.0

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

Waste of this product may qualify as a RCRA Hazardous Waste. Status should be confirmed by testing for RCRA hazardous characteristics (i.e. corrosivity, toxicity, reactivity, or ignitability). 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

Domestically-non-restricted (alcohol content L/T 25%)
Transport according to the requirements of the appropriate regulatory body.

UN number: UN 1993
UN proper shipping name: Flammable liquid, n.o.s. (contains isopropanol)
Transport hazard class(es): 3 (Flammable liquid)
Packing group: III
Flash Point (°C): 48.9°C / 120°F

Please refer to the applicable dangerous goods regulations for additional information. See "excepted quantity" provisions if applicable.

IATA / ICAO

IATA UN / ID No: UN 1993
IATA Proper shipping name: Flammable Liquid, n.o.s. (contains isopropanol)
IATA Hazard Class: 3
IATA Packing Group: III

IMDG IMDG

IMDG UN / ID No: UN 1993
IMDG Proper shipping name: Flammable Liquid, n.o.s.
IMDG Technical Shipping Name: Flammable liquid, n.o.s. (contains isopropanol)
IMDG Hazard Class: 3
IMDG Packing Group: III
Flash Point (°C): 48.9°C / 120°F

ADR/RID

ADR / RID UN / ID No: UN 1993
ADR/RID Proper shipping name: Flammable Liquid, n.o.s.
ADR / RID Hazard Class: 3
ADR / RID Packing Group: III
ADR / RID Item Number: UN 1993

DOT : Not regulated for transportation

15. REGULATORY INFORMATION

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

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 9 of 10
Version: 2.0

15. REGULATORY INFORMATION

Canada - WHMIS: Classifications

WHMIS hazard class:

Class B, Division 3

Class D, Division 2, and Subdivision B.

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.



Isopropyl alcohol

| | |
|---|------------|
| CERCLA/SARA 313 Emission reporting | 1.0 % |
| California Proposition 65 | Not Listed |
| Inventory - United States TSCA - Sect. 8(b) | Present |
| Australia (AICS): | Present |
| EU EINECS/ELINCS List | 200-661-7 |

Non-hazardous ingredients

| | |
|------------------------------------|------------|
| CERCLA/SARA 313 Emission reporting | Not Listed |
| California Proposition 65 | Not Listed |
| EU EINECS/ELINCS List | Not Listed |

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, single exposure; Narcotic effects-Cat.3; H336 - May cause drowsiness and dizziness

Flammable liquids-Cat.2; H225 - Highly flammable liquid and vapor

Xn - Harmful

Xi - Irritant

T+ - Very toxic

N - Dangerous for the environment

F - Highly flammable

SAFETY DATA SHEET

Material Name: Nolvasan Otic
Revision date: 29-May-2015

Page 10 of 10
Version: 2.0

R22 - Harmful if swallowed.
R36 - Irritating to eyes.
R26 - Very toxic by inhalation.
R50 - Very toxic to aquatic organisms.
R11 - Highly flammable.
R67 - Vapors may cause drowsiness and dizziness.

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 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 6 - Accidental Release Measures. Updated Section 7 - Handling and Storage. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 10 - Stability and Reactivity. Updated Section 11 - Toxicology Information. Updated Section 13 - Disposal Considerations. Updated Section 14 - Transport Information. Updated Section 15 - Regulatory Information. Updated Section 16 - Other Information.

Prepared by: Toxicology and Hazard Communication
Zoetis Global Risk Management

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End of Safety Data Sheet