



MSD is a tradename of Merck & Co., Inc., with headquarters in Whitehouse Station, N.J., U.S.A.

SAFETY DATA SHEET

This SDS was created in accordance with Regulation EC 1907/2006 and all amendments. MSD Animal Health urges each user or recipient of this SDS to read the entire data sheet to become aware of the hazards associated with this material.

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

PRODUCT IDENTIFIER

SDS NAME: Butox 7.5 PO Purified Water

SYNONYM(S): Butox 7.5 PO Purified Water

SDS Number: SP002709

REACH REGISTRATION NUMBER Not available

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

IDENTIFIED USE(S): Veterinary Product

USE(S) ADVISED AGAINST: None known.

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

EU SUPPLIER/MANUFACTURER: MSD Animal Health
Rue de Lyons
27460 IGOVILLE France

INFORMATION: +33 (0)2 32 98 92 70 (MSD Animal Health - Igoville, France)

MERCK SDS HELPLINE: +1 (908) 473-3371 (Worldwide)
Monday to Friday, 9am to 5pm (US Eastern Time)

SDS EMAIL: mercksds@merck.com

EMERGENCY TELEPHONE NUMBER

EMERGENCY NUMBER(S): +1 (908) 423-6000 (24/7/365) English Only

EU Transportation Emergencies - Carechem24:
+44 (0)208 762 8322 (24 hours/7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification according to EC Directive 1272/2008:
Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410)

Classification according to EC Directives 67/548/EEC (substances) or 1999/45/EC (mixtures):
N;R50/53

COLOR: Beige
FORM: Liquid Suspension
ODOR: Odorless

LABEL ELEMENTS

SIGNAL WORD:

WARNING



HAZARD STATEMENT(S):

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT(S):

Avoid release to the environment. Collect spillage.

OTHER HAZARDS

Health-Related Hazards:

May cause effects to:
gastrointestinal tract
respiratory system
central nervous system

LISTED CARCINOGENS

INGREDIENT	CAS NUMBER	IARC	EU
Formaldehyde	50-00-0	1	3

1 (IARC): IARC Group 1 - Carcinogenic to Humans

3 (EU): EU Category 3 Carcinogen

Environmental-Related Hazards:

This substance has not been fully tested to meet the criteria for listing as a PBT or a vPvB.

Other Hazards:

No other information known.

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

SUBSTANCE

CHEMICAL FORMULA: Mixture.

The formulation for this product is proprietary information. Only hazardous ingredients in concentrations of 1% or greater and/or carcinogenic ingredients in concentrations of 0.1% or greater are listed in the Chemical Composition table. Active ingredients in any concentration are listed. For additional information about carcinogenic ingredients see Section 2.

CHEMICAL COMPOSITION

INGREDIENT	CAS NUMBER	EC NUMBER	REACH REGISTRATION NUMBER	EU CLASSIFICATION	GHS CLASSIFICATION	PERCENT	REASON FOR LISTING
Deltamethrin	52918-63-5	258-256-6	Not available	T; R23/25 N; R50-53	Acute Tox. 3 (H331) Acute Tox. 3 (H301) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	0.728	Active Pharmaceutical Ingredient Classified
Propylene Glycol	57-55-6	200-338-0	x	Not Classified	Not Classified	10-20	Community workplace exposure limit
Silica Gel	112926-00-8	Not available	Not available	Not Classified	Not Classified	<10	Community workplace exposure limit
Formaldehyde	50-00-0	200-001-8	x	T; R23/24/25 C; R34 Carc.Cat.3; R40 R43	Skin Sens. 1 (H317) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Acute Tox. 3 (H301) Skin Corr. 1B (H314) Carc. 2 (H351)	<0.1	Classified

Fields in the above table that do not contain data indicate that the substance(s) have not been listed or classified according to EU criteria.

ADDITIONAL INFORMATION:

This MSDS is written to provide health and safety information for individuals who will be handling the final product formulation during research, manufacturing, and distribution. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate MSDS for each ingredient. Refer to the package insert or product label for handling guidance for the consumer.

See section 16 for definitions of risk phrases and GHS classifications.

SECTION 4. FIRST AID MEASURES

FIRST AID MEASURES

INHALATION:

Remove to fresh air. If any trouble breathing, get immediate medical attention. Administer artificial respiration if breathing has ceased. If irritation or symptoms occur or persist, consult a physician.

SKIN CONTACT:

In case of skin contact, while wearing protective gloves, carefully remove any contaminated clothing, including shoes, and wash skin thoroughly with soap and water. If irritation or symptoms occur or persist, consult a physician.

EYE CONTACT:

In case of eye contact, immediately rinse eyes thoroughly with plenty of water. If wearing contact lenses, remove only after initial rinse, and continue rinsing eyes for at least 15 minutes. If irritation occurs or persists, consult a physician.

INGESTION:

Rinse mouth and drink a glass of water. Do not induce vomiting unless under the direction of a qualified medical professional or Poison Control Center. If symptoms persist, consult a physician.

FIRST AID RESPONDER PROTECTION:

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves with appropriate personal protective equipment. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. DO NOT use mouth-to-mouth method if victim ingested or inhaled the substance.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

The toxicological properties of the mixture(s) have not been fully characterized in humans or animals. However, there are data to describe the toxicological properties of the individual ingredients. The following summary is based upon available information about the individual ingredients of the mixture(s), or of the expected properties of the mixture(s).

Deltamethrin, a type II pyrethroid insecticide, may cause skin, eye and respiratory irritation. Occupational exposure to deltamethrin has induced temporary skin and facial sensations (feelings of numbness and tingling) or dizziness. Oral ingestion may cause nausea and vomiting. Inhalation exposure to deltamethrin may cause stuffy or runny nose, scratchy throat, wheezing, sneezing, shortness of breath, bronchospasm, headache, dizziness, or feelings of numbness and tingling.

Propylene glycol is considered to be relatively non-toxic. It is a mild irritant to the eyes and has been reported to irritate the skin. It may cause skin sensitization resulting in allergic contact dermatitis in susceptible individuals. Inhalation exposure to saturated and supersaturated atmospheres of propylene glycol for prolonged periods of time produced no adverse effects. Propylene glycol may cause nervous system depression, acidosis, stupor, and seizures after chronic ingestion.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

NOTE TO PHYSICIAN: In cases of overexposure treat supportively and symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA:

Carbon dioxide (CO₂), extinguishing powder or water spray.

UNSUITABLE EXTINGUISHING MEDIA:

None known.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

SPECIAL FIRE HAZARDS:

None known.

ADVICE FOR FIREFIGHTERS

SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing and self-contained breathing apparatus (SCBA).

See Section 9 for Physical and Chemical Properties.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

PERSONAL PRECAUTIONS:

Wear appropriate personal protective equipment as specified in Section 8. Keep personnel away from the clean-up area.

ENVIRONMENTAL PRECAUTIONS:

This product is very toxic to aquatic organisms. Do not allow product to reach ground water, water course, sewage or drainage systems.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

SPILL RESPONSE / CLEANUP:

All spills should be handled according to site requirements and based on precautions cited in the MSDS. In the case of liquids, use proper absorbent materials. For laboratories and small-scale operations, incidental spills within a hood or enclosure should be cleaned by using a HEPA filtered vacuum or wet cleaning methods as appropriate. For large dry or liquid spills or those spills outside enclosure or hood, appropriate emergency response personnel should be notified. In manufacturing and large-scale operations, HEPA vacuuming prior to wet mopping or cleaning is required.

See Sections 9 and 10 for additional physical, chemical, and hazard information.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

HANDLING:

Keep containers adequately sealed during material transfer, transport, or when not in use. Wash face, hands, and any exposed skin after handling. Do not eat, drink, or smoke when using this substance or mixture.

Appropriate handling of this material is dependent on many factors, including physical form, duration and frequency of process or task, and effectiveness of engineering controls. Site-specific risk assessments should be conducted to determine the feasibility and the appropriateness of all exposure control measures. See Section 8 (Exposure Controls) for additional guidance.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

STORAGE:

Store in a cool, dry, well ventilated area.

SPECIFIC END USE(S)

Refer to Section 1 for identified use(s).

See Section 8 for exposure controls and additional safe handling information.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

The following guidance applies to the handling of the active ingredient(s) in this formulation. The end-user should perform an appropriate risk assessment when handling other forms or formulations of this active ingredient.

CONTROL PARAMETERS**OCCUPATIONAL EXPOSURE BAND (OEB):**Deltamethrin: OEB 3: $\geq 10 < 100$ mcg/m³. Materials in an OEB 3 category are considered moderate health hazards. The OEB is a range of airborne concentrations expressed as an 8-hour Time Weighted Average (8-hr. TWA) and is intended to be used with Industrial Hygiene Risk Assessment to assist with industrial hygiene sampling and selection of proper controls for worker protection. Consult your site safety and industrial hygiene staff for guidance on handling and control strategies.**INTERNAL OCCUPATIONAL EXPOSURE LIMIT (8-hr TWA):**Deltamethrin: 10 mcg/m³**Wipe Limit:**Deltamethrin: 150 mcg/100cm²**EXPOSURE LIMIT VALUES:**

INGREDIENT	CAS NUMBER	ACGIH TLV (TWA)	ACGIH TLV (STEL / SKIN)	ACGIH TLV (CEIL)
Formaldehyde	50-00-0			0.3 ppm

INGREDIENT	CAS NUMBER	EU	Austria	Belgium	Denmark	France
Silica Gel	112926-00-8		MAK 4 mg/m ³	TWA 10 mg/m ³		
Formaldehyde	50-00-0		STEL 0.5 ppm STEL 0.6 mg/m ³ S [*] Ceiling 0.5 ppm Ceiling 0.6 mg/m ³ MAK 0.5 ppm MAK 0.6 mg/m ³		Ceiling 0.3 ppm Ceiling 0.4 mg/m ³	VME 0.5 ppm VLCT 1 ppm

INGREDIENT	CAS NUMBER	Germany	Ireland	Italy	Netherlands
Propylene Glycol	57-55-6		TWA 150 ppm TWA 470 mg/m ³ TWA 10 mg/m ³		
Formaldehyde	50-00-0	MAK 0.3 ppm MAK 0.37 mg/m ³ Peak 0.6 ppm Peak 0.74 mg/m ³	STEL 2 ppm STEL 2.5 mg/m ³ TWA 2 ppm TWA 2.5 mg/m ³		STEL 0.5 mg/m ³ TWA 0.15 mg/m ³

INGREDIENT	CAS NUMBER	Norway	Portugal	Spain	Switzerland	UK:
Propylene Glycol	57-55-6	STEL 37.5 ppm STEL 118.5 mg/m ³ TWA 25 ppm TWA 79 mg/m ³				STEL 450 ppm STEL 1422 mg/m ³ STEL 30 mg/m ³ TWA 150 ppm TWA 474 mg/m ³ TWA 10 mg/m ³
Silica Gel	112926-00-8				MAK 4 mg/m ³	
Formaldehyde	50-00-0	STEL 1.5 ppm STEL 1.8 mg/m ³ Ceiling 1 ppm Ceiling 1.2 mg/m ³ TWA 0.5 ppm TWA 0.6 mg/m ³	Ceiling 0.3 ppm	VLA-EC 0.3 ppm VLA-EC 0.37 mg/m ³	STEL 0.6 ppm STEL 0.74 mg/m ³ MAK 0.3 ppm MAK 0.37 mg/m ³	STEL 2 ppm STEL 2.5 mg/m ³ TWA 2 ppm TWA 2.5 mg/m ³

INGREDIENT	Greece	Poland	Hungary	Croatia	Turkey
Propylene Glycol				TWA 150 ppm TWA 474 mg/m ³ TWA 10 mg/m ³	
Silica Gel		NDS 10.0 mg/m ³ NDS 2 mg/m ³			
Formaldehyde	STEL 2 ppm STEL 2.5 mg/m ³ TWA 2 ppm TWA 2.5 mg/m ³	NDSch 1 mg/m ³ S* NDS 0.5 mg/m ³	STEL 0.6 mg/m ³ S* TWA 0.6 mg/m ³	TWA 2 ppm TWA 2.5 mg/m ³ STEL 2 ppm STEL 2.5 mg/m ³	

See Internal Occupational Exposure Limit listed above.

EXPOSURE CONTROLS

The health hazard risks of handling this material are dependent on many factors, including physical form, duration and frequency of process or task, and effectiveness of engineering controls. Site-specific risk assessments should be conducted to determine the feasibility and the appropriateness of all exposure control measures. Exposure controls for normal operating or routine procedures follow a tiered strategy. Engineering controls are the preferred means of long-term or permanent exposure control. If engineering controls are not feasible, appropriate use of personal protective equipment (PPE) may be considered as alternative control measures. Exposure controls for non-routine operations must be evaluated and addressed as part of the site-specific risk assessment.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE):

Body Protection:	In small-scale or laboratory operations, lab coats or equivalent protection is required. Disposable Tyvek or other dust impermeable suit should be considered based on procedure or level of exposure. Use of additional PPE such as shoe coverings, gauntlets, hood, or head covering may be necessary. Consult your site safety staff for guidance.
Skin Protection:	In large-scale or manufacturing operations, disposable Tyvek or other dust impermeable suit is recommended and based on level of exposure. Use of additional PPE such as shoe coverings, gauntlets, hood, or head covering may be necessary. Consult your site safety staff for guidance. Gloves that provide an appropriate barrier to the skin are recommended if there is potential for contact with this material. Consult your site safety staff for guidance.
Respiratory Protection:	Respiratory protective equipment (RPE) may be required for certain laboratory and large-scale manufacturing tasks if potential airborne breathing zone concentrations of substances exceed the relevant exposure limit(s). Workplace risk assessment should be completed before specifying and implementing RPE usage. Potential exposure points and pathways, task duration and frequency, potential employee contact with the substance, and the ability of the substance to be rendered airborne during specific tasks should be evaluated. Initial and ongoing strategies of quantitative exposure measurement should be obtained as required by the workplace risk assessment. All RPE must conform to local and regional specifications for efficacy and performance. Consult your site or corporate health and safety professional for additional guidance.
Eye Protection:	Safety glasses with side shields. Use of goggles or full face protection may be required based on hazard, potential for contact, or level of exposure. Consult your site safety staff for guidance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

FORM:	Liquid Suspension
COLOR:	Beige
ODOR:	Odorless
ODOR THRESHOLD:	Not determined
pH:	6.5 - 7.5 @ 20 deg C
BOILING POINT / RANGE:	Not determined
MELTING POINT / RANGE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined
VAPOR PRESSURE:	Not determined
VAPOR DENSITY:	Not determined
SPECIFIC GRAVITY:	Not determined
SOLUBILITY:	
Water:	Soluble
PARTITION COEFFICIENT (log Pow):	Not determined
VISCOSITY:	Not determined
EVAPORATION RATE:	Not determined
FLAMMABILITY DATA:	
Flash Point:	Not determined (liquids) or not applicable (solids).
Flammability (solid, gas):	Not determined
UEL:	Not determined

SDS NAME: Butox 7.5 PO Purified Water

SDS Number: SP002709

Latest Revision Date: 30-Nov-2012

Page 6 of 11

LEL: Not determined
Autoignition Temperature: Not determined

SECTION 10. STABILITY AND REACTIVITY

STABILITY/ REACTIVITY:

Stable under conditions specified in Section 7 of this SDS. No hazardous reactions known.

CONDITIONS AND MATERIALS TO AVOID:

None known.

HAZARDOUS DECOMPOSITION PRODUCTS / REACTIONS:

No dangerous decomposition is expected if used according to manufacturer's specifications.

SECTION 11. TOXICOLOGICAL INFORMATION

The information presented below pertains to the following individual ingredients, and not to the mixture(s).

LIKELY ROUTES OF EXPOSURE:

Skin, eye, inhalation, and ingestion.

ACUTE TOXICITY DATA

INHALATION:

Deltamethrin: Inhalation LC50 (2hr): 785 mg/m³ [0.785 mg/L] (rat)

Propylene glycol caused no adverse effects in monkeys or rats following exposure to saturated atmospheres for prolonged periods of time.

ORAL:

Deltamethrin: Oral LD50: 9.36-139 mg/kg (rat); 19-34 mg/kg (mouse)

Propylene glycol: Oral LD50: 21 to 33.7 g/kg (rat), 10 to 20 g/kg (dog)

Propylene glycol caused dyspnea, cramps, loss of equilibrium, depression, analgesia, and death after prolonged moribund state in mice at doses ranging from 23.9 to 31.8 g/kg. In rabbits, 1 to 1.5 g/kg propylene glycol reduced intraocular pressure by raising the osmotic pressure of blood.

EYE:

Deltamethrin was slightly to moderately irritating to the eyes of rabbits.

Propylene glycol was slightly irritating to the eyes of rabbits.

SKIN:

Deltamethrin: Dermal LD50: > 800 mg/kg (rat); > 2000 mg/kg (rabbit)
Deltamethrin was not irritating to the skin of rabbits.

Propylene glycol: Dermal LD50: 20.8 g/kg (rabbit)

Propylene glycol was irritating in a human patch test. Propylene glycol was not irritating to the skin of rabbits, guinea pigs and swine.

ASPIRATION:

No data available.

DERMAL AND RESPIRATORY SENSITIZATION:

Deltamethrin was not a skin sensitizer in guinea pigs.

Propylene glycol did not cause sensitization in a human patch test.

REPEAT DOSE TOXICITY DATA

SUBCHRONIC / CHRONIC TOXICITY:

In a 13-week neurotoxicity study male and female rats received deltamethrin in the diet at dose levels up to 58 mg/kg/day. Systemic toxicity, including mortality, unsteady gait, hypersensitivity to noise, and impaired performance in neurotoxicity assays were observed in the high dose (58 mg/kg/day). The high dose females exhibited a slight increase in the incidence of retinal degeneration [NOEL: 15 mg/kg/day]. No toxicity was observed when deltamethrin, dissolved in maize oil, was administered in the diet to 64 dogs for 24 months at dose levels of 0.025, 0.25 and 1 mg/kg body weight. Rats and dogs given oral doses of 10 mg/kg/day for 13-weeks exhibited motor symptoms but no pathological changes or fatalities were observed. Other effects observed in dogs were vomiting, diarrhea, tremors, salivation and depressed reflexes.

Propylene glycol caused no adverse effects in monkeys or rats exposed to saturated vapor concentrations for 12 to 18 months. Rats exposed to 25 or 50% (7.7 and 13.2 g/kg/day) propylene glycol in water died within 69 days in a 140 day study. In a separate study, a diet of 30% propylene glycol was not well tolerated in young rats, and dams could not bring their young to weaning; diets containing 40, 50, or 60% propylene glycol were lethal after a few days.

REPRODUCTIVE / DEVELOPMENTAL TOXICITY:

Deltamethrin was administered to mice and rats by gastric intubation at dose levels 3, 6, or 12 mg/kg body weight (gestation days 7-10) and 1.25, 2.5, or 5.0 mg/kg body weight (gestation days 7-20), respectively. In both species, dose-related reductions in maternal weight gain was observed. There were no dose-related mortalities; however, mice at the high and mid dose groups became convulsive after dosing. In both species, there were no effects on the number of implants, fetal mortality, fetal weight or malformations. In a teratology study, deltamethrin was not teratogenic when given by oral intubation to mice and rats (0.1, 1, or 10 mg/kg/day) from gestation days 6 to 17 and 6 to 18, respectively. In mice, a moderate and transient retardation of development of the fetus at the 1 and 10 mg/kg/day dose was noted, but these effects were not observed on days 1 or 21 post-partum. Slightly delayed ossification at the highest dose level was the only effect noted in rats. In a 3-generation reproductive study conducted in rats (0.1, 1.0 and 2.5 mg/kg/day), a reproductive NOEL of greater than 2.5 mg/kg/day was reported.

Propylene glycol caused decreased food consumption, retarded growth, smaller litters, changes in breeding patterns, and inhibited weaning in rats that were fed 30% propylene glycol through six generations; however, this may have been due to nutritional insufficiency. Propylene glycol was not teratogenic in rabbits, monkeys or chickens.

MUTAGENICITY / GENOTOXICITY:

Deltamethrin was negative in an Ames assay, chromosome aberration assay, mouse micronucleus test and in a dominant lethal test.

Propylene glycol was negative in a bacterial mutagenicity study (Ames).

CARCINOGENICITY:

There was no evidence of carcinogenicity in mice or rats treated with deltamethrin at dose levels up to 395 mg/kg body weight or 47 mg/kg body weight, respectively.

Propylene glycol was not carcinogenic when applied to the skin, or when given orally in mice and rats.

Classification according to EC Directive 1272/2008:

Aquatic Acute 1 (H400). Aquatic Chronic 1 (H410).

Classification criteria have not been met for the following endpoints due to lack of data, inconclusive data, technical impossibility to obtain the data, or data which are conclusive although insufficient for classification (available information to support classification criteria is given in Section 4 or Section 11 of this data sheet):

Dermal toxicity. Skin sensitization. Skin corrosion or irritation. Respiratory sensitization. Mutagenicity. Carcinogenicity. Reproductive toxicity. Specific target organ toxicity (STOT) - Single Exposure. Specific target organ toxicity (STOT) - Repeated Exposure. Aspiration hazard. Inhalation toxicity. Eye damage or irritation. Oral toxicity.

See Section 4 for human health symptoms and effects.

SECTION 12. ECOLOGICAL INFORMATION

There are no data for the final product or its formulation(s). The information presented below pertains to the following ingredient(s).

ECOTOXICITY DATA**INGREDIENT ECOTOXICITY**

Deltamethrin:
 96-hr LC50 (Rainbow trout): 0.91 mcg/L
 96-hr LC50 (Carp): 1.45 mcg/L
 96-hr LC50 (Fathead minnow): >100 mg/L
 48-hr EC50 (Daphnia magna): 0.56 - 3.5 mcg/L
 48-hr EC50 (Daphnia magna) - Formulation: 13 mg/L
 14-day LC50 (Earthworm): >1290 mg/kg

28-day NOEC (Rainbow trout): <0.032 mcg/L
 35-day NOEC (Fathead minnow): 0.022 mcg/L
 21-day NOEC (Daphnia magna): 0.0041 mcg/L
 28-day NOEC (Midge): 0.01 mcg/L
 72-hr EC50 (Green algae): >9.1 mg/L

Propylene glycol: 96-hr LC50 (sheepshead minnow): 23,800 mg/L
 Propylene glycol: 48-hr EC50 (daphnid): >43,500 mg/L
 Propylene glycol: 72-hr EC50 (green algae): >19,000 mg/L
 Propylene glycol is expected to be readily biodegradable.

PERSISTENCE AND DEGRADABILITY**Biodegradation Results:**

No data available.

BIOACCUMULATIVE POTENTIAL

Partition Coefficient (log Pow) Results:

Deltamethrin: 6.1

Bioaccumulative Potential (Ingredient Data):

BCF: Deltamethrin = 1400 (Bluegill sunfish)

MOBILITY IN SOIL

Soil Adsorption/Desorption Results:

No data available.

PBT and vPvB ASSESSMENT

This substance has not been assessed.

OTHER ADVERSE EFFECTS

ENVIRONMENTAL FATE AND EFFECTS:

No data available.

OTHER INGREDIENT ENVIRONMENTAL DATA:

Propylene glycol is expected to be readily biodegradable.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

MATERIAL WASTE:

Disposal must be in accordance with applicable federal, state/provincial, and/or local regulations. Incineration is the preferred method of disposal, when appropriate. Operations that involve the crushing or shredding of waste materials or returned goods must be handled to meet the recommended exposure limit(s).

PACKAGING AND CONTAINERS:

Disposal must be in accordance with applicable federal, state/provincial, and/or local regulations.

SECTION 14. TRANSPORT INFORMATION

Refer to site-specific procedures and requirements for additional guidance.

IATA/ICAO CLASSIFICATION:

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
Hazard Class:	9
UN Number:	UN 3082
Packing Group:	III

ADR CLASSIFICATION:

ADR Special Provision 601 exempts pharmaceutical products which are also environmentally hazardous substances from all ADR regulation. Per ADR special provision 601, as a pharmaceutical product (medicine) ready for use, this material is not regulated as a dangerous good for transport within Europe.

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
Hazard Class:	9
UN Number:	UN 3082
Packing Group:	III
Classification Code:	M6

IMDG/IMO CLASSIFICATION:

Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Deltamethrin)
Hazard Class:	9
UN Number:	UN 3082
Packing Group:	III

SECTION 15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Germany, Water Endangering Classes (WGK)

INGREDIENT	Annex 1	Annex 2 - Water Hazard Classes	Annex 3
Deltamethrin	Not listed.	680	Not listed.
Propylene Glycol	Not listed.	280	Not listed.
Silica Gel	849	Not listed.	849
Formaldehyde	Not listed.	112	Not listed.

Ozone Depleting Substance(s)

INGREDIENT	Listing
Deltamethrin	Not listed.
Propylene Glycol	Not listed.
Silica Gel	Not listed.
Formaldehyde	Not listed.

Persistent Organic Pollutants

INGREDIENT	Listing
Deltamethrin	Not listed.
Propylene Glycol	Not listed.
Silica Gel	Not listed.
Formaldehyde	Not listed.

EU Import and Export Restrictions

INGREDIENT	Requires PIC Notification	Requires Export Notification	Export Ban
Deltamethrin	Not listed.	Not listed.	Not listed.
Propylene Glycol	Not listed.	Not listed.	Not listed.
Silica Gel	Not listed.	Not listed.	Not listed.
Formaldehyde	Not listed.	Not listed.	Not listed.

SEVESO II EU Directive

INGREDIENT	Listing
Deltamethrin	Not listed.
Propylene Glycol	Not listed.
Silica Gel	Not listed.
Formaldehyde	x

REACH

INGREDIENT	Subject to Authorization	Candidate List for Authorization	Potential Substances of High Concern	Restrictions
Deltamethrin	Not listed.	Not listed.	Not listed.	Not listed.
Propylene Glycol	Not listed.	Not listed.	Not listed.	Not listed.
Silica Gel	Not listed.	Not listed.	Not listed.	Not listed.
Formaldehyde	Not listed.	Not listed.	Not listed.	Not listed.

CHEMICAL SAFETY ASSESSMENT

A Chemical Safety Assessment has not been done.

SECTION 16. OTHER INFORMATION

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequence of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

DEPARTMENT ISSUING SDS:

Global Safety & the Environment
Merck & Co., Inc.
One Merck Drive
Whitehouse Station, NJ 08889

MERCK SDS HELPLINE:

+1 (908) 473-3371 (Worldwide)
Monday to Friday, 9am to 5pm (US Eastern Time)

SIGNIFICANT CHANGES (EU SUBFORMAT):

New regional format

SDS NAME: Butox 7.5 PO Purified Water

SDS Number: SP002709

DEFINITIONS (referred to under Sections 2 and 3):

CLP Classifications:	<ul style="list-style-type: none">• Aquatic Acute 1 (H400)• Aquatic Chronic 1 (H410)• Acute Tox. 3 (H301) - Toxic if swallowed.• Acute Tox. 3 (H311) - Toxic in contact with skin.• Skin Corr. 1B (H314) - Causes severe skin burns and eye damage• Skin Sens. 1 (H317) - May cause an allergic skin reaction.• Acute Tox. 3 (H331) - Toxic if inhaled.• Carc. 2 (H351) - Suspected of causing cancer.	<ul style="list-style-type: none">• Very toxic to aquatic life with long lasting effects
Risk Phrases:	<ul style="list-style-type: none">• R34 - Causes burns.• R40 - Limited evidence of a carcinogenic effect.• R43 - May cause sensitization by skin contact.• R23/25 - Toxic by inhalation and if swallowed.• R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.• R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	

GLOSSARY:

IARC - International Agency for Research on Cancer, IARC Group 1 or 2A.
NTP - National Toxicology Program
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - International Carriage of Dangerous Goods by Road
API - Active Pharmaceutical Ingredient
CAS - Chemical Abstract Service
CLP - Classification, Labeling and Packaging
DOT - Department of Transportation
EC - European Council
ETAC - Estimated Target Airborne Concentration
GHS - Globally Harmonized System
HEPA - High Efficiency Particulate Arresting
HHC - Health Hazard Category
HPA - Hypothalamic Pituitary Adrenal
IATA - International Air Transport Association
IMO - International Maritime Organization
IP - Intraperitoneal Injection
LD50 - Lethal Dose, 50%
LC50 - Lethal Concentration, 50%
LOEL - Lowest Observed Effect Level
NEL - No Effect Level
NOAEL - No Adverse Effect Level
NOEL - No Observe Effect Level
OEG - Occupational Exposure Guideline
PBT - Persistent BioaccumulativeToxic
PG - Packing Group
PIC - Prior Informed Consent
PPE - Personal Protective Equipment
REACH - Registration, Evaluation, Authorization and Restriction of Chemical Substances
RPE - Respiratory Protective Equipment
SCBA - Self Contained Breathing Apparatus
STOT - Specific Target Organ Toxicity
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
UN - United Nations
vPvB - Very Persistent andVery Bioaccumulative
WGK - Water Hazard Class (Germany)