

Safety Data Sheet



Bristol-Myers Squibb Company

1. IDENTIFICATION											
<i>Product Information</i>											
Product name	VePesid Capsules, 50 mg & 100 mg										
Version	1.1, 18.10.2012										
Jurisdiction	This Safety Data Sheet was prepared in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) for the United States of America (USA) (CFR 1910.1200), European Union (EU) (EC 1272/2008) and United Nations (UN). The following countries utilize the UN GHS classification process: Mexico, Brazil, China, New Zealand, Canada, Japan, Korea and Australia.										
Synonyms	Etoposide Capsules; VP-16-213										
Intended Uses	This material is a finished drug product for patient use. It is used in the treatment of cancer.										
<i>Company/Undertaking Identification</i>											
Address	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;"><u>USA</u></td> <td style="width: 33%;"><u>Ireland</u></td> </tr> <tr> <td>Bristol-Myers Squibb Company</td> <td>Bristol-Myers Squibb Company</td> </tr> <tr> <td>P.O. Box 191</td> <td>Swords Laboratories, Watery Lane</td> </tr> <tr> <td>New Brunswick, New Jersey 08903</td> <td>Swords, Ireland</td> </tr> <tr> <td>United States of America</td> <td>MG-GBS-MSDS-Request@bms.com</td> </tr> </table>	<u>USA</u>	<u>Ireland</u>	Bristol-Myers Squibb Company	Bristol-Myers Squibb Company	P.O. Box 191	Swords Laboratories, Watery Lane	New Brunswick, New Jersey 08903	Swords, Ireland	United States of America	MG-GBS-MSDS-Request@bms.com
<u>USA</u>	<u>Ireland</u>										
Bristol-Myers Squibb Company	Bristol-Myers Squibb Company										
P.O. Box 191	Swords Laboratories, Watery Lane										
New Brunswick, New Jersey 08903	Swords, Ireland										
United States of America	MG-GBS-MSDS-Request@bms.com										
Emergency Phone Number	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">USA (also Canada, Puerto Rico and the Virgin Island): 1-800-424-9300</td> <td style="width: 33%;"><u>Ireland</u>: 353-1813-9456</td> </tr> <tr> <td colspan="2">Other Countries: See "Section 16" for country-specific emergency phone numbers from CHEMTREC.</td> </tr> </table>	USA (also Canada, Puerto Rico and the Virgin Island): 1-800-424-9300	<u>Ireland</u> : 353-1813-9456	Other Countries: See "Section 16" for country-specific emergency phone numbers from CHEMTREC.							
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Other Countries: See "Section 16" for country-specific emergency phone numbers from CHEMTREC.											

2. HAZARDS IDENTIFICATION	
Classification and Labelling Common to All Jurisdictions	
Classification	Germ Cell Mutagenicity - Category 1B Carcinogenicity - Category 1A Toxic To Reproduction - Reproductive Toxicity - Category 1A Toxic To Reproduction - Developmental Toxicity - Category 1A Specific Target Organ Systemic Toxicity (Repeated Exposure) - Category 1
Symbol	
Signal Word	Danger
Hazard Statements	May cause cancer. May cause genetic defects. May damage fertility May damage the unborn child Causes damage to organs (bone marrow, gastrointestinal tract, peripheral nervous system, cardiovascular system, female reproductive organs, male reproductive organs, lymphatic system) through prolonged or repeated exposure.

2. HAZARDS IDENTIFICATIONPrecautionary
Statements

Do not breathe dust/fume/gas/mist/vapours/spray.
 Use personal protective equipment as required.
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Concentration	CAS-No.	EU only		
			EINECS/ELINCS/ Number	Symbol(s)/ R-phrases	H-code(s)
<i>Hazardous components</i>					
Etoposide	7.7 %	33419-42-0	251-509-1	T: R22, R45, R46, R48, R60, R61	H302 H340 H350 H360F H360D H372
Glycerol	< 10 %	56-81-5	200-289-5	--	H372
<i>Other ingredients</i>					
Non-Hazardous Ingredients	< 85 %	Not available	--	--	--
See section 16 for Symbol, R-phrases and H-code text.					

4. FIRST AID MEASURES

Eye contact	Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Obtain medical attention.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention. Discard contaminated clothing or wash before re-use.
Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. If exposed or concerned: Get medical attention/advice.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical attention/advice.
Notes to Physician	Medical conditions aggravated include: disorders affecting target organs. This product has been reported to interact with the following medications: cytotoxic and cytostatic medicines, cyclosporine. Refer to Section 11. Possible risk of harm to the unborn child.
Medical Surveillance	A pre-placement physical examination and history for employees with potential exposure to this compound is recommended. Baseline testing would include: a complete blood count with differential, a blood test for liver function. Based on opportunity for exposure and duration of exposure a periodic follow-up examination may be considered. This exam should be overseen by a physician thoroughly knowledgeable about both the toxicity of this compound and the extent of work place exposure. It is recommended that the content be similar to the pre-placement exam. Employees who are pregnant, are breast-feeding, or who are concerned with other reproductive issues should be encouraged to consult with the occupational health physician monitoring worker's health.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not available
Extinguishing Media	Suitable extinguishing media: Dry chemical, Water spray, Foam Unsuitable extinguishing media: Do NOT use water jet.
Protection of Firefighters	Specific hazards: Not available Protective equipment: Use personal protective equipment. In the event of fire, wear self-contained breathing apparatus. Hazardous Combustion Products: carbon oxides (COx), trace titanium, trace iron oxides
Other information	Decontaminate protective clothing and equipment before reuse.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Refer to protective measures listed in sections 7 and 8. Use personal protective equipment. Examples include tightly fitting safety goggles, disposable lab coat of low permeability with cuffs, double gloves and shoe covers. Wear respiratory protection. Depending on the nature of the spill (quantity and extent of spill) additional protective clothing and equipment such as a self-contained breathing apparatus may be needed.
Environmental precautions	Prevent release to drains and waterways. Prevent release to the environment.
Containment Methods	Wet down any dust to prevent generation of aerosols, if appropriate. Cover with suitable material.
Cleanup Methods	Spill prevention procedures and a spill response procedure should be implemented. Contain and collect spillage and place in container for disposal according to local regulations (see Section 13). Clean spill area with a deactivating solution (if available) followed by detergent and water after spill pick-up. Handle waste materials, including gloves, protective clothing, contaminated spill cleanup material, etc., as appropriate for chemically and pharmacologically similar materials.

7. HANDLING AND STORAGE

Handling Precautions	Highly potent material. Avoid exposure - obtain special instructions before use. Avoid formation of dust and aerosols. Keep away from heat and sources of ignition. Prevent release to drains and waterways.
Container Requirements	Not available
Storage Conditions	Store at 10 - 25 °C.
Specific use(s)	Refer to Section 1

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)	Company Guideline	ACGIH	Germany OEL	UK MEL
Etoposide	0.14 µg/m ³	--	--	--
Glycerol		10 mg/m ³ TWA	--	--
Glycerol	Occupational Exposure Limits have been established by: - Belgium - Estonia - Spain - Finland - France - Greece - Ireland - The Netherlands - Poland - Portugal			

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommended Industrial Hygiene Monitoring Methods Contact the Bristol-Myers Squibb AIHA accredited Industrial Hygiene Laboratory at 732-227-6338.

EXPOSURE CONTROLS / PERSONAL PROTECTION FOR MATERIAL AS SUPPLIED

VePesid Capsules, 50 mg & 100 mg
5 -- Material is assigned to Exposure Control Band 5 (range 0.1 - 1 µg/m3).

Engineering Controls and Ventilation FOR MANUFACTURING PROCESSES (BULK): Use process enclosures, containment technology, or other engineering controls to keep airborne levels below recommended exposure limit. When handling quantities up to 25 grams, work in a standard laboratory using a fume hood, biological safety cabinet(class II Type A2 with thimble connection,B1, or B2), glove box,or approved vented enclosure.HEPA filtered exhaust with Bag-In/Bag-Out capacity preferred for hoods, BSCs and glove boxes. When handling quantities from 25 - 100 grams work in a designated laboratory or containment facility using a fume hood, biological safety cabinet (Class II, Type A2 with thimble connection, B1, or B2);glove box; approved vented enclosure. HEPA filtered exhaust with Bag-In/Bag-Out capacity preferred for hoods, BSCs and glove boxes.

Quantities exceeding 100 grams should be handled in a containment facility using appropriate containment isolation technology with isolator/glove box systems, glove bags, double/split butterfly valves, remote operations, direct process connections and systems, or automated systems.

FOR CLINICAL SETTING USE (DRUG PRODUCT): When handling small quantities in a clinical setting, good room ventilation is desirable. Specific engineering controls should not be needed. When handling broken or crushed tablets or capsules, ensure worker exposure is below the recommended exposure limit. If significant dust is generated, use process enclosures, containment technology, or other engineering controls to keep airborne levels below recommended exposure limit.

Respiratory protection Use and selection of respiratory protection is based upon engineering controls in use and potential for aerosol generation. When engineering controls are not sufficient to control exposure, wear an approved respirator with NIOSH Class 100 or high efficiency particulate (HEPA) filters or cartridges when exposures are up to 10 times the exposure control guideline. Wear a loose-fitting (Tyvek or helmet type) HEPA powered-air purifying respirator (PAPR) when exposures are 10-25 times the exposure control guideline. Wear a full facepiece negative pressure respirator with Class 100 or HEPA filters when exposures are 25-50 times the exposure control guideline. Wear a tight-fitting, full facepiece HEPA PAPR when exposures are 50-100 times the exposure control guideline. Wear a hood-shroud HEPA PAPR or full facepiece supplied air respirator operated in a pressure demand or other positive pressure mode when exposures are 100-1000 times the exposure control guideline.

Eye protection Safety glasses with side-shields are recommended (EN 166). Face shields or chemical safety goggles (EN 166) may be required if splash potential exists or if corrosive materials are present. Note: Choice of eye protection may be influenced by the type of respirator which is selected.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Hand protection	FOR MANUFACTURING PROCESSES (BULK): Wear gloves at all times when handling containers, including when unpacking, inspecting or transporting within a facility. When handling >25 grams wear double gloves (EN 420, EN 374). Disposable chemotherapy gloves made from nitrile, neoprene, polyurethane and natural latex have been shown to have low permeability to many chemotherapy agents. Persons who are allergic to natural rubber latex should select gloves made from one of the other materials. Check gloves frequently to ensure that there are no small cuts or holes. Change gloves frequently, and remove immediately after overt contamination. Use care when removing and disposing of gloves in order to minimize exposure. If material is handled in solution, the solvent should also be considered when selecting protective clothing material.
Skin and body protection	Wear a laboratory coat(EN 340) when handling quantities up to 25 grams. For quantities from 25- 100 grams: wear disposable labcoat or coverall of low permeability (EN 1149-1); disposable wrist gauntlets/sleeves unless working in glove box. For quantities over 100 grams and manufacturing operations, wear disposable coverall of low permeability (EN 1149-1) ; disposable shoe covers; and, disposable wrist gauntlets/sleeves unless working in glove box. For quantities over 100 grams and manufacturing operations, gloves and booties should be taped to protective clothing to prevent gaps in PPE and air supplied full-body suits (EN 1073) may be required as associated with advanced respiratory protection. FOR CLINICAL SETTING USE (DRUG PRODUCT): When handling small quantities in a clinical setting, good room ventilation is desirable. Specific engineering controls should not be needed.
Hygiene	Wash hands and face before breaks and immediately after handling the product.
Environmental exposure controls	Prevent release to drains and waterways.

9. PHYSICAL AND CHEMICAL PROPERTIES*General Information**Appearance*

Physical State	solid
Color	opaque pink
Form	liquid filled gelatin capsule

Odour

Odour	Not available
Odor Threshold	Not available

pH	Not available
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Other information

Bulk density	Not available
Evaporation rate	Not available
Molecular formula	Not applicable
Hydrolysis/Photolysis	Not available
Hygroscopicity	Not available
Molecular Weight	Not applicable
Log Octanol/Water Partition Coeff [log Kow]	Not available
Surface Tension	Not available
pKa	Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

Particle Size	Not available
Solubility, Water	sparingly soluble
Specific Gravity/ Relative density	Not available
Viscosity, dynamic	solid
Viscosity, kinematic	Not available
% Volatile	Not available

Thermal/Stability properties

Autoignition temperature	Not available
Boiling Point	Not available
Thermal decomposition	Not available
Explosive Limits, LEL	Not available
Explosive limits, UEL	Not available
Explosiveness	Non-explosive based on chemical structure.
Flammability	Not available
Flash point	Not available
Melting Point	Not available
Oxidizing Potential	Non-oxidizer based on chemical structure.

Vapor Properties

Vapor Density	Not available
Vapor Pressure	negligible
Saturated Vapor Concentration	Not available

10. STABILITY AND REACTIVITY*Stability*

Chemical Stability	Stable under normal conditions.
Conditions to avoid	Not available
Materials to avoid	Not available
Hazardous decomposition products	Hazardous decomposition products: carbon oxides (CO _x), trace titanium, trace iron oxides
Hazardous reactions	Not available

11. TOXICOLOGICAL INFORMATION

Routes of Entry	Ingestion, Inhalation, Eye contact, Skin contact
Eye Irritation	<u>Glycerol</u> Mildly and/or transiently irritating to eyes

11. TOXICOLOGICAL INFORMATION

Skin Irritation	<p><u>Etoposide Phosphate</u> Mildly and/or transiently irritating to skin.</p> <p><u>Glycerol</u> Not irritating to skin.</p>
Respiratory Irritation	Not available
Sensitization	<p><u>Etoposide Phosphate</u> Not a dermal sensitizer in an experimental study</p>
Acute Toxicity Study	<p>Acute Oral</p> <p><u>Etoposide</u> LD50 (rat): 1,784 mg/kg LD50 (rat): 1,784 mg/kg LD50 (rat): 1,784 mg/kg LD50 (rat): 1,784 mg/kg</p> <p><u>Etoposide Phosphate</u> LD50 (mouse, males and females): 3,800 mg/kg High exposure effects include: abnormal posture, abnormal gait, hypoactivity, labored respiration, dehydration, fecal changes.</p> <p><u>Glycerol</u> LD50 (rat): 12,600 mg/kg LD50 (rat): 12,600 mg/kg</p> <p>Acute Dermal</p> <p><u>Glycerol</u> LD50 (rat): > 21,900 mg/kg LD50 (rat): > 21,900 mg/kg</p> <p>Acute inhalation toxicity</p> <p><u>Glycerol</u> LC50 (rat): > 570 mg/m³/1 H</p> <p>Acute toxicity (other routes of administration)</p> <p><u>Etoposide Phosphate</u> Maximum nonlethal dose (rat, males and females, intravenous): 31 mg/kg LD50 (mouse, males and females, intravenous): 147 mg/kg LD50 (mouse, males, Intraperitoneal): 89 mg/kg</p>

11. TOXICOLOGICAL INFORMATIONRepeated Dose
ToxicityEtoposide

1 - 3 months intravenous (daily) Study with recovery period (2 months) (males and females): LOAEL = 0.15 mg/kg; Low dose effects include: decreased body weight, decreased food consumption, changes in clinical chemistry parameters, decreased white blood cell count, changes in red blood cell parameters, injection site reactions, mortality. Low dose microscopic effects include: lymphatic system, spleen, bone marrow, peripheral nervous system, male reproductive organs, gastrointestinal tract, lungs, mammary gland, skeletal muscles. Effects still present after recovery include: testes, axonal degeneration. No mortality occurred.

Etoposide Phosphate

1 months intravenous (daily) Study with recovery period (1 months) (males and females): LOAEL = 0.15 mg/kg; Low dose effects include: decreased body weight, decreased food consumption, changes in clinical chemistry parameters, changes in white blood cell parameters, changes in red blood cell parameters, injection site reactions, mortality. Low dose microscopic effects include: lymphatic system, spleen, bone marrow, peripheral nervous system, male reproductive organs, gastrointestinal tract, lungs, mammary gland, heart, skin.

5 D Oral (daily) mouse, rat, dog Study with recovery period (30 - 60 days) (males and females): LOAEL = 3.44 mg/kg; Low dose effects include: abnormal posture, dehydration, drooping eyelids, loose stools, hypoactivity, breathing difficulties, decreased body weight, decreased food consumption, tremors, decrease in body temperature, weakness, collapse, vomiting, changes in clinical pathology parameters, decreased organ weights included:, thymus, testes, mortality. Low dose microscopic effects include: bone marrow, thymus, gastrointestinal tract, spleen, lymph nodes, mammary gland, testes. Effects still present after recovery include: testes.

20 D Intraperitoneal (5/week) mouse, rat Study with recovery period (28 - 31 D) (males): LOAEL = 2 mg/kg; Low dose effects include: decreased body weight, decreased organ weights included:, testes, mortality. Low dose microscopic effects include: small intestine, liver, salivary gland, spleen, thymus, bone marrow, testes.

Genetic Toxicity

Etoposide**In vitro**

Ames reverse-mutation assay -- positive
Mutagenicity (micronucleus test) -- positive
Chromosome aberrations assay -- positive

in vivo

Intraperitoneal, Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) (mouse) -- positive
Intraperitoneal, mammalian germ cell cytogenetics assay (spermatogonia) (rat) -- positive

Mutagenicity Assessment

This material was positive in a battery of in vivo and in vitro genotoxicity assays.

Glycerol**Mutagenicity Assessment**

This material was negative in a battery of in vivo and in vitro genotoxicity assays. Not considered a mutagen according to 29 CFR 1910, 67/348/EC or Canadian Controlled Products Regulations.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity Etoposide
Carcinogenicity Assessment
 The carcinogenic potential has not been studied. Compounds with similar mechanisms of action and mutagenic potential were reported to be carcinogenic. Some secondary cancers developed in persons with other cancers who were treated with this drug, either alone or in combination with other anticancer drugs. It is not known whether these were a result of the treatment with this drug, with one of the other drugs, or a result of progression of the underlying disease. See Human Experience. This material is probably carcinogenic to humans.

Glycerol
 2 Years Dietary (daily) rat Study : Tumor NOAEL = 10,000 mg/kg (males and females).
 No treatment-related tumors were observed.

Carcinogenicity	ACGIH	IARC	NTP
Etoposide	--	2A	--
Etoposide Phosphate	--	1	--
Glycerol	--	--	--

Reproductive Toxicity Etoposide
Assessment Reproductive Toxicity
 Animal studies indicate that reproductive effects can occur. See "Human Experience".

Glycerol
Assessment Reproductive Toxicity
 This substance did not cause adverse effects on male or female reproduction or on the offspring of treated animals.

Developmental Toxicity Etoposide
Developmental Toxicity Assessment
 This material has been shown to cross the placenta. Birth defects were observed in animal studies. This compound and/or its metabolites may be excreted into the milk. See "Human Experience".

Glycerol
Developmental Toxicity Assessment
 Several developmental studies were conducted. Did not show teratogenic effects in animal experiments. This material has been shown to cross the placenta.

11. TOXICOLOGICAL INFORMATION

Human experience	<p>Experiences with Human Exposure</p> <p><u>Etoposide</u> General effects therapeutic use low exposure - acute effects include: nausea, vomiting, diarrhoea, loss of appetite, abdominal pain, chest pain, heart attack, congestive heart failure, hair loss, rash, nail changes, menstrual irregularities, asthma, breathing difficulties, difficulty swallowing, bruising, confusion, skin effects, eye effects, fatigue, headache, vision changes, tingling, numbness, pain, lowered blood pressure, decreased red blood cell count, decreased white blood cell count, anaphylaxis. low exposure - long term exposure effects include: colitis, acute leukemia, changes in blood clotting parameters, cardiac irregularities, inflammation of gastrointestinal tract, liver toxicity, peripheral neuropathies, ovarian changes, sperm abnormalities.</p> <p><u>Glycerol</u> General effects therapeutic use low exposure - acute effects include: headache, dizziness, nausea, vomiting, thirst, diarrhoea, confusion, dry mouth, eye irritation. low exposure - long term exposure effects include: changes in red blood cell parameters, kidney disorders, cardiac irregularities, other central nervous effects, hyperglycemia, electrolyte disturbance, coma. This substance has laxative effects. This substance has strong osmotic effects.</p>
Target Organs	<p><u>Etoposide</u> bone marrow, gastrointestinal tract, peripheral nervous system, lymphatic system, cardiovascular system, female reproductive organs, male reproductive organs</p> <p><u>Etoposide Phosphate</u> bone marrow, gastrointestinal tract, peripheral nervous system, lymphatic system, cardiovascular system, female reproductive organs, male reproductive organs</p> <p><u>Glycerol</u> gastrointestinal tract</p>
Symptoms	<p><u>Etoposide</u> See "Human Experience".</p> <p><u>Glycerol</u> See "Human Experience".</p>
Pharmacokinetics/ Toxicokinetics	<p><u>Etoposide</u> Absorption: Not available Distribution: Not available Metabolism: Not available Elimination: Half-life = 0.6 - 10.8 Hour(s) (Human).</p>
Other Toxicity Information	<p>Not available</p>

12. ECOLOGICAL INFORMATION**Ecotoxicity effects****Acute Toxicity to Fish**Glycerol

LC50 (Oncorhynchus mykiss (rainbow trout), 96 H) : 51,000 - 57,000 mg/l.

Acute Toxicity to Aquatic InvertebratesGlycerol

EC50 (Daphnia magna (Water flea), 24 H) : > 500 mg/l.

Mobility Not available**Persistence and degradability****Biodegradation**Glycerol

Ready biodegradation (14 D) : 63 % ; Readily biodegradable - rapidly biodegrades in the environment

PBT and vPvB Assessment: Not available**13. DISPOSAL CONSIDERATIONS**

Advice On Disposal And Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements. This information presented only applies to the material as supplied.
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Other information	Disposal by incineration is recommended.
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14. TRANSPORT INFORMATION

This material is not a dangerous good for the purpose of transportation.

15. REGULATORY INFORMATION**United States of America**

313 Toxic Release Inventory. Listed Chemicals/Compounds	No components listed on the SARA 313 inventory.
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TSCA Inventory	Not listed. Food, drug and cosmetic products are exempt from TSCA.
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California Prop. 65	Developmental toxicant	Etoposide
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EU Directive 1999/45/EC**BULK MATERIAL**

Symbol(s)	T: Toxic
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R-phrases(s)	R45: May cause cancer. R46: May cause heritable genetic damage. R48: Danger of serious damage to health by prolonged exposure. R60: May impair fertility. R61: May cause harm to the unborn child.
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S-phrases(s)	S22: Do not breathe dust. S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
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15. REGULATORY INFORMATION

S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
S53: Avoid exposure - obtain special instructions before use.
S60: This material and its container must be disposed of as hazardous waste.

DRUG PRODUCT

Classification Medicinal products are exempt from classification and labeling requirements under EU Preparations Directive 1999/45/EC.

Regulatory Authorizations and Restrictions: Not available

16. OTHER INFORMATION

Text of Symbol(s), R-phrases and H-code(s) mentioned in Section 3

- H302 Harmful if swallowed.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H360D May damage the unborn child
- H360F May damage fertility
- H372 Causes damage to organs through prolonged or repeated exposure.
- R22 Harmful if swallowed.
- R45 May cause cancer.
- R46 May cause heritable genetic damage.
- R48 Danger of serious damage to health by prolonged exposure.
- R60 May impair fertility.
- R61 May cause harm to the unborn child.
- T Toxic

Recommended Restrictions for Use:

Not available

SDS preparation information

Prepared by Research and Development Environment, Health and Safety 1-732-227-7380

Prepared on 18.10.2012 DD/MM/YYYY

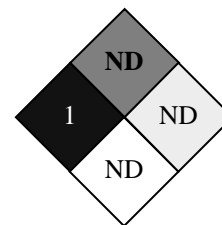
This Safety Data Sheet has been revised. This data sheet contains changes from the previous version in section(s): 1, 4, and 16.

Other information

HMIS	Health	1*
	Flammability	Not Determined (ND)
	Reactivity	Not Determined (ND)
	Personal protective equipment	See Section 8.

NFPA

Health 1
Fire ND
Reactivity ND
Special ND



Country- Specific Emergency
Phone Numbers

CHEMTREC In-Country Dial Numbers	Local # Provided in Country	Toll Free in Country*	Greeting Language
CHEMTREC South Africa*		0-800-983-611	English
CHEMTREC Argentina (Buenos Aires)	+(54)-1159839431		Latin American Spanish
CHEMTREC Brazil (Rio De Janeiro)	+(55)-2139581449		Portuguese
CHEMTREC Chile (Santiago)	+(56)-25814934		Latin American Spanish
CHEMTREC Colombia *		01800-710-2151	Latin American Spanish
CHEMTREC Mexico*		01-800-681-9531	Latin American Spanish
CHEMTREC Peru (Lima)	+(51)-17071295		Latin American Spanish
CHEMTREC China*	4001-204937		Mandarin
CHEMTREC Hong Kong (Hong Kong)*		800-968-793	Cantonese
CHEMTREC India *		000-800-100-7141	Hindi
CHEMTREC Indonesia *		001-803-017-9114	Indonesian
CHEMTREC Japan (Tokyo)	+(81)-345209637		Japanese
CHEMTREC Malaysia *		1-800-815-308	Malay
CHEMTREC Philippines *		1-800-1-116-1020	Tagalog
CHEMTREC Singapore*		800-101-2201	Mandarin
CHEMTREC Singapore	+(65)-31581349		Mandarin
CHEMTREC South Korea*		00-308-13-2549	Korean
CHEMTREC Taiwan*		00801-14-8954	Mandarin
CHEMTREC Thailand *		001-800-13-203-9987	Thai
CHEMTREC Vietnam (Ho Chi Minh City)	+(84)-838012436		Vietnamese
CHEMTREC Australia (Sydney)	+(61)-290372994		English
CHEMTREC Belgium (Brussels)	+(32)-28083237		French and Flemish
CHEMTREC Czech Republic (Prague)	+(420)-228880039		Czech
CHEMTREC France	+(33)-975181407		French
CHEMTREC Germany *		0800-181-7059	German
CHEMTREC Hungary (Budapest)	+(36)-18088425		Hungarian
CHEMTREC Italy *		800-789-767	Italian
CHEMTREC Italy (Milan)	+(39)-0245557031		Italian
CHEMTREC Netherlands	+(31)-858880596		Dutch
CHEMTREC Poland (Warsaw)	+(48)-223988029		Polish
CHEMTREC Spain*		900-868538	European Spanish
CHEMTREC Sweden (Stockholm)	+(46)-852503403		Swedish
CHEMTREC Switzerland (Zurich)	+(41)-435016715		German
CHEMTREC UK (London)	+(44)-870-8200418		English
CHEMTREC Bahrain (Bahrain)	+(973)-16199372		Arabic
CHEMTREC Israel (Tel Aviv)	+(972)-37630639		Hebrew

*Phone numbers for countries marked with an asterisk must be dialed within the country

The information contained in this SDS is believed to be accurate and represents the best information reasonably available at the time of preparation. However, we make no warranty, express or implied, with respect to such information, and we assume no liability from its use.