



<b>IN CASE OF EMERGENCY</b> <b>Emergency Phone: (614) 276-4000</b>
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## Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION		
Common/Trade Name: Cyclophosphamide Tablets USP		
Chemical Name: 2H-1,3,2-Oxazaphosphorine, tetrahydro-2-(bis(2-chloroethyl)amino)-, 2-oxide, monohydrate		
Synonyms: None		
Molecular Formula: C <sub>7</sub> H <sub>15</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub> P • H <sub>2</sub> O		
Molecular Weight: 279.13		
CAS No: 6055-19-2		
Chemical Family: Synthetic antineoplastic, Immunosuppressants		
Product Use: Treatment of various types of cancer and some autoimmune disorders.		
Manufacturer's Name: <b>Boehringer Ingelheim Roxane Inc.</b>		
Address: <b>1809 Wilson Road Columbus, Ohio 43228</b>		
2. COMPOSITION / INFORMATION ON INGREDIENTS		
Composition	CAS#	Exposure Limit
Cyclophosphamide (active ingredient)	6055-19-2	None established
<i>REFER to PHYSICIAN'S DESK REFERENCE for common components present as &lt;1%</i>		
3. HAZARDS IDENTIFICATION		
Emergency Overview	Physical State: Round, unscored tablets The 25 mg tablets are light blue with "54 639" engraved on one side and blank on the other. The 50 mg tablets are light blue with "54 980" engraved on one side and blank on the other.  Odor: Odorless  <b>DANGER!</b> Product contains a known cancer causing agent. May be harmful if swallowed. Accidental ingestion of large amounts may be harmful.	
Primary Route(s) of Entry	Ingestion	
Potential Health Effects:	Inhalation: Not expected to be an inhalation hazard in final pharmaceutical form.  Eye Contact: Not expected to be a hazard to the eye in final pharmaceutical form.  Skin Contact: Not expected to be a hazard to the skin. Can cause hypersensitive reactions resulting in rash, redness, itching and inflammation.  Ingestion: May be harmful if ingested. Ingestion may cause nausea, vomiting, diarrhea, and lethargy.	
Toxicity Data:	See Section 11	

Effects of Overexposure:	The potential for exposure is reduced in finished pharmaceutical form. Contains cyclophosphamide, a known cancer causing agent, potentially causing cancer of the bladder as a long-term complication. It can also cause temporary or (rarely) permanent sterility. Although used to treat cancer, it may increase the risk of developing another form of cancer, sometimes months to years after treatment. Overexposure by ingestion may cause fatigue, bloody urine, joint pain and slow wound healing.
Target Organs:	Immune system, bone marrow, bladder
<b>4. FIRST AID MEASURES</b>	
Eye Exposure	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses if worn. Get medical attention if symptoms persist.
Skin Exposure	Wash with soap and water. Get medical attention if symptoms occur.
Ingestion	Call a physician or poison control center immediately.
Inhalation	Should not pose a hazard in the final form. If breathing is difficult, move to fresh air. Get medical attention immediately.
<b>5. FIRE AND EXPLOSION HAZARDS</b>	
Flammability	Lower: N/A Upper: N/A
Flash Point	Not Applicable
Extinguishing Media	Use water spray, dry chemical, carbon dioxide, foam or material appropriate for fire in surrounding area
Special Fire Fighting Procedures	Wear full protective clothing and self-contained breathing apparatus.
Unusual Fire/Explosion Hazards	Not Applicable
Hazardous Combustion Products	Carbon dioxide, carbon monoxide, oxides of nitrogen, oxides of phosphorous, hydrogen chloride
<b>6. ACCIDENTAL RELEASE INFORMATION</b>	
STEPS TO BE TAKEN IF SIGNIFICANT QUANTITIES OF PRODUCT IS SPILLED: Use appropriate personal protective equipment (see Section 8). Sweep up and containerize spill material in a compatible container. Dispose according to applicable regulations. Incineration of the waste at an approved facility is recommended.	
<b>7. PRECAUTIONS FOR SAFE HANDLING AND USE</b>	
Precautions Handling Significant Quantities of Product:	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage	Store at 15° to 25°C (59° to 77°F). Keep container closed tightly. Protect from light and moisture. Store away from foodstuffs.
<b>8. CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT</b>	
Exposure Limits	None
Engineering Controls	Not required when handling tablets or containers. Ventilation should be matched to conditions.
Respiratory Protection	Not required when handling tablets or containers. NIOSH/MSHA approved respirators for protection should be used if respirators are found to be necessary. Ventilation should be matched to conditions.
Personal Protection	If containers are compromised or exposure is likely wear: Goggles, Lab Coat, Gloves
Recommended Facilities	Eye wash, washing facilities
<b>9. PHYSICAL / CHEMICAL CHARACTERISTICS</b>	

Appearance	Light blue, round, unscored tablets	Melting point	Not available	Solubility in water	Moderate
Odor	Odorless	Boiling point	Not available	Specific Gravity	Not available
Taste	Not available	Vapor Pressure	Not available	Flashpoint	Not available
pH	Not available	Density	Not available	Flammability Limits	Not available
<b>10. STABILITY AND REACTIVITY DATA</b>					
Stability	Stable				
Incompatibility	None known				
Hazardous Decomposition	Oxides of carbon, oxides of nitrogen, oxides of phosphorous, hydrogen chloride				
Conditions to Avoid	Excessive heat, light				
Hazardous Polymerization	Will not occur.				
<b>11. TOXICOLOGICAL INFORMATION</b>					
<p>Acute Toxicity:</p> <p>Active Ingredient:  LD50 Oral (rat): 94 mg/kg  LD50 Oral (mouse): 350 mg/kg</p> <p>Cyclophosphamide is carcinogenic, cytotoxic and teratogenic in animals and humans.</p> <p>Cyclophosphamide is listed as an IARC 1 Carcinogen (Carcinogenic to Humans).</p>					
<b>12. ENVIRONMENTAL IMPACT INFORMATION</b>					
No information is currently available on the environmental impact of this product.					
<b>13. DISPOSAL INFORMATION</b>					
Waste Disposal Considerations: Dispose of material according to federal, state and local disposal regulations or company operating procedures. Disposal by incineration is recommended. EPA Hazardous Waste No.: U058 At home: Discard away from children's reach.					
<b>14. TRANSPORTATION INFORMATION</b>					
This product is not subject to the regulations for the safe transport of hazardous chemicals. DOT: Not regulated TDG: Not regulated IATA: Not regulated IMDG: Not regulated					
<b>15. REGULATORY INFORMATION</b>					
DEA: Cyclophosphamide is not a controlled substance. FDA: Cyclophosphamide is an approved prescription medication. Inventory Status: This material is not listed on the US TSCA Inventory. Therefore, it can only be used for TSCA exempt purposes such as R&D or drug use. This material is not listed on the DSL Inventory but is exempt.					
<b>16. OTHER DATA</b>					

<b>ABBREVIATIONS:</b> N/A – not applicable
<b>Prepared by:</b> Boehringer Ingelheim Roxane, Inc.
<b>References:</b> <ol style="list-style-type: none"><li>1. Cyclophosphamide Tablets USP, Package Insert, Boehringer Ingelheim Roxane, Inc., Columbus, Ohio</li><li>2. RTECS No. RP6157750 – 2H-1,3,2-Oxazaphosphorine, tetrahydro-2-(bis(2-chloroethyl)amino)-, 2-oxide, monohydrate</li><li>3. Ariel Webinsight. Regulatory and ChemExpert Database.</li><li>4. PDR – Physicians Desk Reference</li></ol>
<b>Date:</b> 09/13/2008 - New MSDS
<b>SEE CURRENT PACKAGE INSERT FOR FURTHER INFORMATION</b>

*The information provided is believed to be complete and accurate. If this product is combined with other materials, deteriorates or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the users' responsibility to use the information according to the application. Boehringer Ingelheim Roxane, Inc. assumes no responsibility or liability resulting from the use of this information.*