



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	OPD Tablets	Product Code	6534
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	12/1/2003
		Print Date	1/20/2004

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym	None.
Material Uses	Analytical reagent.
Chemical Family	mixture

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
L(+) Tartaric Acid	87-69-4	12-18
Sodium Cyclamate	139-05-9	50-60
L-Leucine	61-90-5	1-4
1,2-Phenylenediamine Dihydrochloride	615-28-1	6-10
Sodium Carbonate, Anhydrous	497-19-8	10-15

Section 3. Hazards Identification

Physical State and Appearance	Solid. (Tablet)
Emergency Overview	DANGER! HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. CONTAINS MATERIAL WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Potential Acute Health Effects	<p>Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.</p> <p>Skin Hazardous in case of skin contact (permeator, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</p> <p>Inhalation Hazardous in case of inhalation (lung irritant).</p> <p>Ingestion Hazardous in case of ingestion.</p>

Continued on Next Page

Potential Chronic Health Effects

Carcinogenic Effects Classified 3 by IARC (Sodium Cyclamate)

Additional information See Toxicological Information (section 11)

**Medical Conditions
Aggravated by
Overexposure:**

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product	Non-flammable.
Auto-ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of static discharge: No. Risks of explosion of the product in presence of mechanical impact: No.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Continued on Next Page

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Do not ingest. Avoid breathing dust. Keep container closed. Do not get in eyes, on skin, or on clothing.
Storage	Store frozen. Warm to room temperature before opening.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
-----------------------------	---

Personal Protection

Eyes Splash goggles.

Body Lab coat.

Respiratory Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
L(+) Tartaric Acid	Not available.
Sodium Cyclamate	Not available.
L-Leucine	Not available.
1,2-Phenylenediamine Dihydrochloride	Not available.
Sodium Carbonate, Anhydrous	Not available.

Section 9. Physical and Chemical Properties

Odor	Not available.
Color	Not available.
Physical State and Appearance	Solid. (Tablet)
Molecular Weight	Not applicable.

Continued on Next Page

Molecular Formula	Not applicable.
pH	Not available.
Boiling/Condensation Point	Not available.
Melting/Freezing Point	851.06°C (1563.9°F) based on data for: Sodium Carbonate, Anhydrous. Weighted average: 394.11°C (741.4°F)
Specific Gravity	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
LogK_{ow}	Not available.
Solubility	Easily soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Reactive with acids.
Rem/Incompatibility	Not available.
Hazardous Decomposition Products	These products are halogenated compounds.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:	L(+) Tartaric Acid Sodium Cyclamate L-Leucine 1,2-Phenylenediamine Dihydrochloride Sodium Carbonate	WW7875000 GV7350000 OH2850000 ST0175000 VZ4050000
Toxicity	Acute oral toxicity (LD ₅₀): 1280 mg/kg [Rat]. (Sodium Cyclamate). Acute toxicity of the vapor (LC ₅₀): 800 mg/m ³ 2 hour(s) [Guinea pig]. (Sodium Carbonate, Anhydrous).	
Chronic Effects on Humans	Not available.	
Acute Effects on Humans	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (permeator, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation (lung irritant). Hazardous in case of ingestion.	
Synergetic Products (Toxicologically)	Not available.	

Continued on Next Page

Irritancy	Draize Test: Not available.
Sensitization	Hazardous in case of skin contact (sensitizer).
Carcinogenic Effects	Classified 3 by IARC (Sodium Cyclamate)
Toxicity to Reproductive System	Not available.
Teratogenic Effects	Not available.
Mutagenic Effects	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The products of degradation are as toxic as the product itself.

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations..

Section 14. Transport Information

DOT Classification	Not available.
TDG Classification	Not available.
IMO/IMDG Classification	Not available.
ICAO/IATA Classification	Not available.

Section 15. Regulatory Information

U.S. Federal Regulations	<p>TSCA 8(b) inventory: L(+) Tartaric Acid; Sodium Cyclamate; L-Leucine; 1,2-Phenylenediamine Dihydrochloride; Sodium Carbonate, Anhydrous</p> <p>TSCA 8(d) H and S data reporting: 1,2-Phenylenediamine Dihydrochloride: 1983</p> <p>SARA 302/304/311/312 extremely hazardous substances: No products were found.</p> <p>SARA 302/304 emergency planning and notification: No products were found.</p> <p>SARA 302/304/311/312 hazardous chemicals: Sodium Cyclamate; Sodium Carbonate, Anhydrous</p> <p>SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Cyclamate: Delayed (Chronic) Health Hazard; Sodium Carbonate, Anhydrous: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard</p> <p>SARA 313 toxic chemical notification and release reporting: 1,2-Phenylenediamine Dihydrochloride 8%</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean air act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean air act (CAA) 112 regulated flammable substances: No products were found.</p>
---------------------------------	---

Continued on Next Page

Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada)

Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
 Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: L(+) Tartaric Acid; Sodium Cyclamate; L-Leucine; 1,2-Phenylenediamine Dihydrochloride; Sodium Carbonate, Anhydrous

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS

L(+)	Tartaric Acid	201-766-0
	Sodium Cyclamate	205-348-9
	L-Leucine	200-522-0
	1,2-Phenylenediamine Dihydrochloride	210-418-7
	Sodium Carbonate, Anhydrous	207-838-8

DSCL (EEC)

R22- Harmful if swallowed.
 R37/38- Irritating to respiratory system and skin.
 R41- Risk of serious damage to eyes.
 R43- May cause sensitization by skin contact.

International Lists

Australia (NICNAS): L(+) Tartaric Acid; Sodium Cyclamate; L-Leucine; 1,2-Phenylenediamine Dihydrochloride; Sodium Carbonate, Anhydrous

China: Sodium Cyclamate

Japan (MITI): L(+) Tartaric Acid; Sodium Cyclamate; L-Leucine; 1,2-Phenylenediamine Dihydrochloride; Sodium Carbonate, Anhydrous

Korea (TCCL): L(+) Tartaric Acid; 1,2-Phenylenediamine Dihydrochloride; Sodium Carbonate, Anhydrous

Philippines (RA6969): L(+) Tartaric Acid; Sodium Cyclamate; L-Leucine; Sodium Carbonate, Anhydrous

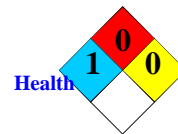
China: Sodium Cyclamate

State Regulations

No products were found.
 California prop. 65: No products were found.

Section 16. Other Information

**National Fire
 Protection
 Association
 (U.S.A.)**



Fire Hazard

Reactivity

Specific Hazard

**Changed Since Last
 Revision**



Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.