

MATERIAL SAFETY DATA SHEET

Calcium Titration Solution II

SECTION 1 . Product and Company Identification

Product Name and Synonym: Calcium Titration Solution II

Product Code: 205-23

Material Uses:

Manufacturer: OFI Testing Equipment, Inc.
11302 Steeplecrest Drive
Houston, TX 77065 USA
Phone: (713) 880-9885
Fax: (713) 880-9886

Entry Date : 5/10/2010

Print Date: 10/8/2010

24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec 613-996-6666

Health:	3			
Flammability:	0			
Reactivity:	1			
Hazard Rating:				
Least	Slight	Moderate	High	Extreme
0	1	2	3	4
NA = Not Applicable		NE = Not Established		

SECTION 2 HAZARD IDENTIFICATION

May be fatal if inhaled, swallowed or absorbed thru the skin. Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

Emergency Overview: Danger! Corrosive. Causes burns to any area of contact. Harmful if swallowed or inhaled. Affects the blood. May cause methemoglobinemia.

Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion: High concentrations cause coma and death from circulatory collapse. May convert hemoglobin to methemoglobin, producing cyanosis. May also cause nausea, vomiting, fall in blood pressure, headache, vertigo, ringing in the ears, shortness of breath.

Skin: Irritant and possible sensitizer.

Eye Contact: Corrosive to the eyes. May cause severe irritation and corneal damage.

Chronic Exposure: This substance is a blood toxin, causing hemoglobin to convert to methemoglobin, resulting in cyanosis. Lengthy or repeated exposure may result in decreased appetite, anemia, weight loss, nervous system affects, and kidney, liver and bone marrow damage.

Aggravated by Exposure: Persons with pre-existing disorders of the blood, skin, liver, kidneys or lungs may be at an increased risk from exposure

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input checked="" type="checkbox"/>	Sodium Cyanide	CAS# 143-33-9	30%	W/V	TXDS: orl-rat LD ₅₀ : 6.44 mg/Kg
<input type="checkbox"/>	Water, Deionized ASTM Type II	CAS# 7732-18-5	Balance	V/V	None Established

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SECTION 4 FIRST AID MEASURES

May be fatal if inhaled, swallowed or absorbed thru the skin. Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

FIRST AID: SKIN: In case of contact, immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. CALL A PHYSICIAN. Thoroughly clean clothing and shoes before reuse.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

If ingested immediately give patient activated charcoal slurry. Do not induce vomiting as it could interfere with resuscitator use.

SECTION 5 FIRE FIGHTING MEASURES

- Fire Extinguisher Type: Water spray , carbon dioxide, foam or dry chemical for surrounding fire. Use water spray to cool fire exposed containers.
- Fire / Explosion Hazards: Potassium cyanide dissolves readily in water. Contain run-off to avoid environmental /safety problems.
- Fire Fighting Procedure: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Evacuate area! Absorb spill with inert material, then place in a chemical waste container. Dispose of in a manner consistent with federal, local law.

Spills: Ventilate Area of Leak or Spill. Allow Only Qualified Personnel to Handle Spill. Clean-Up Personnel Require Protective Clothing and Respirator Protection From Vapors. Absorb Material with Paper Towel and Place in a Closed Container for Recovery or Disposal. Do Not Flush to Sewer! Decontaminate Liquid Residues in Spill Area with Sodium or Calcium Hypochlorite Solution. US Regulations (CERCLA) Require Reporting Spills and Releases to Soil, Water and Air in Excess of Reportable Quantities.

SECTION 7 HANDLING AND STORAGE

DANGER!! This material can produce DEADLY gases when mixed with acids. Store in a cool, dry, well-ventilated place away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Respiratory Protection: NIOSH/MSHA-approved respirator
- Ventilation
- Local Exhaust
- Mechanical
- Protective Gloves: Butyl or neoprene
- Eye Protection: Face shield
- Other Protective Equipment: Wear appropriate clothing to prevent skin exposure

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Calcium Titration Solution II

Melting Point:	not available	Percent Volatile by Volume:	70%
Boiling Point:	not available	Evaporation Rate	not available
Vapor Pressure:	Negligible	Evaporation Standard	
Vapor Density:	not available	Auto Ignition Temp	Not applicable
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	Not applicable
Appearance /Odors:	White granulers,no odor	Upper Flamm. Limit in Air	Not applicable
Flash Point:	N/A		
Specific Gravity:	Not available		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	Stable
Conditions to Avoid:	incompatibilities, temperature extremes
Materials to Avoid:	acids, strong oxidizing agents
Hazardous Decomposition Products:	hydrogen cyanide, ammonia gases.
Hazardous polymerization:	Will Not Occur
Conditions to Avoid:	None known

SECTION 11 Toxicological Information

Carcinogenic References: IARC Category- None, NTP Carcinogen - Known: No
LCLo (Inhalation) : 120 mg/m³/1 hour (man - hydrogen cyanide)
LC50 (Inhalation) : 323 ppm/5 minutes (mouse - hydrogen cyanide)
All cyanide salts are extremely toxic via ingestion. The probable oral lethal dose is < 5 mg/kg, or a mere taste (< 7 drops) for a 70kg person or 1 teaspoon of a 2% HCN solution.
TDLo (Ingestion) : 714 ug/kg (man)
LDLo (Ingestion) : 2857 ug/kg (man)
LD50 (Ingestion) : 6440 ug/kg (rat)

SECTION 12 Ecological Information

Environmental Fate: No information found
Environmental Toxicity: This material is expected to be very toxic to aquatic life. This material is expected to be very toxic to terrestrial life.

SECTION 13 Disposal Considerations

Cyanides must be Oxidized to Harmless Waste Before Disposal. An Alkaline Solution (pH of 10) is Treated with Chlorine or Commercial Bleach in Excess to Decompose Cyanide. When cyanide-free, it can be neutralized. Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 Transport Information

DOT Classification: Toxic Liquid inorganic n.o.s. (Sodium Cyanide), 6.1, UN3287, PG I

Calcium Titration Solution II

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

Chemical Inventory Status –
Part 1:Ingredient
Sodium Cyanide (143-33-9)

TSCA Yes
EC Yes
Japan YES
Australia Yes

Chemical Inventory Status –
Part 2:Ingredient
Sodium Cyanide (143-33-9)

Korea Yes
DSL Yes
NDSL No
Phil. Yes

Federal, State & International Regulations –
Part 1: Ingredient.
Sodium Cyanide (143-33-9)

RQ 10
TPQ 100
List NO
Chemical Catg CYANIDE COMP.

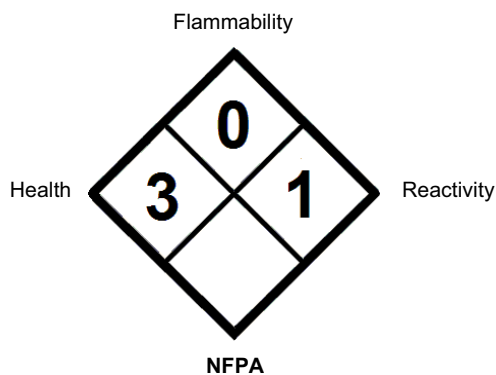
Federal, State &
International Regulations –
Part 2:Ingredient
Sodium Cyanide (143-33-9)

CERCLA 10
261.33 P106
8(d) No

Chemical Weapons Convention: YES
TSCA 12 (b): No
CDTA: Yes PURE/SOLID
SARA 311/312: Acute: Yes
Chronic: Yes
Fire: No
Pressure: No
Reactivity: No
Australian Hazchem Code: 4X
Poison Schedule: 7S

SECTION 16 Additional Information

DANGER!! This material can be FATAL !! POISON Cyanide gas may form! Take caution in handling this material . Effects of over exposure:nausea,headache,dizziness, vomiting, weakness, rapid respiration. Acute:convulsions, asphazia, dyspnea. Ataxis, tremors,coma.Chronic:burns with discomfort, tearing, blurred vision, possible permanent eye damage. Target organs.blood eyes,skin, lungs may be FATAL if swallowed or inhaled or absorbed through the skin. Conditions aggravated/target organs. Central nervous system. Persons with pre-existing eye,skin or respirtory conditions may be more susceptible. If ingested antidote kit and oxygen should be administered. Immediately give patient activated charcoal slurry. Do not induce vomiting.



Revisions

7/30/2010	0.1	updated msds to 16 section from 10 section msds. STN
10/8/2010	0.2	Specified amount of soduim cyanide as 30% w/v. STN

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