

## SAFETY DATA SHEETS

**This SDS packet was issued with item:**

074719506

N/A



# M A T E R I A L   S A F E T Y   D A T A   S H E E T

24-Hour Emergency #: (U.S.) 1-800-535-5053 / (Outside U.S.) 352-323-3500

## SECTION I: Product & Company Identification

Product Name: **Credo Clave**  
Catalog Number: **193148, 193164, 200316**  
Manufactured by: Young Dental Manufacturing  
13705 Shoreline Court East  
Earth City, MO 63045  
1.800.325.1881

## SECTION II: Health Hazard Information

**Appearance:** Clear yellow liquid with an irritating ammonia odor

**Routes of Entry:** Ingestion, skin contact, eye contact, inhalation

**Health Hazards:** Eye and skin irritation, dizziness from excessive inhalation

**Signs and symptoms of exposure:** Eye contact – irritation; Skin contact – irritation; Inhalation - vertigo

**Medical conditions generally aggravated by exposure:** Dermatitis, eye injuries

**NFPA ratings:** Health – 1 Flammability – 0 Reactivity – 0

## SECTION III: Hazardous Components

Hazardous Components	CAS Number	OSHA PEL	ACGIH TWA	% by Weight
Morpholine*	110-91-8	20 ppm	20 ppm	25%

\*LD<sub>50</sub> (oral rat) – 1050 mg/kg

## SECTION IV: First Aid Procedures

**Eye:** Flush with copious amounts of water for 15 minutes. If irritation persists, seek medical attention.

**Skin Contact:** Wash immediately with plenty of soap and water. If irritation persists, seek medical attention.

**Ingestion:** DO NOT INDUCE VOMITING. Give large quantities of milk or water. Seek medical attention.

**Inhalation:** Remove to fresh air if exposure is excessive. If dizziness occurs, seek medical attention.

## **SECTION V: Fire Fighting Measures**

<b>Flash Point:</b>	35°C (95°F) (morpholine)
<b>Flammable Limits:</b>	1.8% (morpholine) Credo Clave does not burn or support combustion
<b>Extinguishing Media:</b>	Water spray, carbon dioxide, dry chemical, alcohol foam
<b>Special Fire Fighting Procedures:</b>	Firefighters should be equipped with appropriate protective apparel and use NIOSH approved breathing masks.
<b>Unusual Fire and Explosion Hazards:</b>	Ammonia and toxic oxides of carbon and nitrogen may be produced upon combustion. Material is corrosive.

## **SECTION VI: Accidental Release Measures**

**In case of spill:** Wipe with a damp towel. Wash area thoroughly. Limit inhalation of vapors.

## **SECTION VII: Handling and Storage**

Keep out of reach of children. Keep container tightly sealed when not in use and when transporting. Avoid contact with eyes, skin and clothing. Do not take internally.

## **SECTION VIII: Personal Protection**

**Protective wear:** Protective gloves, goggles, lab jacket or apron

**Ventilation:** Make sure work area is well ventilated.

**Respiratory Protection:** None required

**Work / Hygienic Practices:** Wash hands thoroughly after use.

## **SECTION IX: Physical and Chemical Properties**

<b>Solubility</b>	Soluble in water
<b>Boiling Point</b>	102°C (216°F)
<b>Specific Gravity (Water = 1)</b>	1.017
<b>Melting Point</b>	Not Determined
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Slow
<b>Vapor Pressure</b>	Not Determined
<b>Vapor Density</b>	>1
<b>Appearance</b>	Clear yellow liquid with an irritating ammonia odor

## **SECTION X: Stability and Reactivity**

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

**Hazardous Decomposition Products:** Ammonia, toxic oxides of carbon and nitrogen

**Conditions / Materials to Avoid:** Acids, strong oxidizers, nitrites

## **SECTION XI: Toxicological Information**

N/A

## **SECTION XII: Ecological Information**

N/A

## **SECTION XIII: Disposal Considerations**

**Waste disposal method:** Place towels in trash receptacles or wash cloth towels thoroughly. Dispose of in accordance with all applicable local, state, and federal regulations.

## **SECTION XIV: Transport Information**

Not regulated

## **SECTION XV: Regulatory Information**

N/A

## **SECTION XVI: Other Information**

N/A

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# YOUNG<sup>TM</sup>

## DENTAL MANUFACTURING

### S A F E T Y   D A T A   S H E E T

#### **SECTION I: Identification**

**Product Identifier:**

**Product Name:** Lorvic<sup>TM</sup> Credo Clave<sup>TM</sup>  
**Part/Item Number:** 193148, 193164

**Recommended Use of the Substance or Mixture and Restrictions on Use:**

**Recommended Use:** Credo Clave is a concentrated autoclave water additive with anti-rust properties. Use to preserve instruments.

**Restrictions on Use:** For professional use only

**Details of the Supplier:**

**Manufactured by:** Young Dental Manufacturing  
13705 Shoreline Court East  
Earth City, MO 63045  
1.800.325.1881

**Emergency Phone Number:**

**Infotrac:**  
**24-Hour Number-** (U.S.) 1-800-535-5053  
**Outside U.S.-** 1-352-323-3500

#### **SECTION II: Hazard(s) Identification**

**Classification of the Substance or Mixture:**

Health Hazard	Physical Hazard
Skin Corrosive Category 1 Eye Damage/Irritation Category 1 Acute Toxicity – Dermal Category 4	Flammable Liquid Category 3

**Label Elements:**

**Hazard Symbol:**



**Signal Word:** Danger

**Hazard Statement(s):**

Causes severe skin burns and eye damage  
Causes serious eye damage  
Harmful in contact with skin  
Flammable liquid and vapor

**Precautionary Statement(s):****Prevention –**

Wear protective gloves/protective clothing/eye protection/face protection.  
Do not breathe dusts or mists.  
Wash skin thoroughly after handling.  
Keep away from heat/sparks/open flames/hot surfaces.— No smoking.  
Keep container tightly closed.  
Use explosion-proof electrical/ventilating/ lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.

**Response –**

Immediately call a poison center/doctor.  
Call a poison center/doctor if you feel unwell.  
If swallowed: Rinse mouth. Do NOT induce vomiting.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If on skin: Wash with plenty of water and soap.  
Take off contaminated clothing and wash it before reuse.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
In case of fire: Use water, carbon dioxide, foam, or dry chemicals to extinguish.

**Storage –**

Store locked up.  
Store in a well-ventilated place. Keep cool.

**Disposal –**

Dispose of contents/containers in accordance with local/regional/national/international regulations.

**Other Hazards:** None

**SECTION III: Composition/Information on Ingredients****Mixture:**

Component	CAS #	WT%	Classification
Morpholine	110-91-8	25%	Acute Toxicity - Oral Category 4 Acute Toxicity – Inhalation Vapor Category 3 Acute Toxicity – Dermal Category 3 Flammable Liquid Category 3 Skin Corrosion/Irritation Category 1A Eye Damage/Irritation Category 1

**SECTION IV: First-Aid Measures****Description of First Aid Measures:**

**Ingestion** – DO NOT INDUCE VOMITING. Give large quantities of milk or water. **Eye contact** – Flush eyes with copious amounts of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin contact** – Immediately take off and wash all contaminated clothing. Wash skin with plenty of soap and water.  
**Inhalation** – Remove to fresh air if exposure is excessive.

**Most Important Symptoms and Effects, Acute and Delayed:** Contact with skin may cause skin corrosion. Eye contact may cause serious eye damage (irreversible effects on the eye). Inhalation may cause vertigo.

**Indication of Any Immediate Medical Attention and Special Treatment Needed:**

**Ingestion** – Ingestion of morpholine may cause gastric disturbances. Immediately call a poison center/doctor.  
**Eye contact** - Immediately call a poison center/doctor.

**Skin contact** – Immediately call a poison center/doctor.  
**Inhalation** - If dizziness occurs, seek medical attention.

## **SECTION V: Firefighting Measures**

**Extinguishing media:** Use media appropriate for surrounding fire, such as water, carbon dioxide, foam, or dry chemicals.

**Special Hazards Arising from the Substance or Mixture:** Product is dangerous when exposed to heat or flames. Ammonia and toxic oxides of carbon and nitrogen may be produced upon combustion. Material is corrosive.

### **Advice for Fire-Fighters:**

**Fire Fighting Procedures** - Fight fire from a safe distance or protected location.

**Precautions for Fire Fighters** - Firefighters should be equipped with appropriate protective apparel and use NIOSH approved breathing masks.

## **SECTION VI: Accidental Release Measures**

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Wear protective gloves/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces.– No smoking. Ensure adequate ventilation.

**Methods and Materials for Containment and Cleaning Up:** Spills should be contained, solidified, and placed in suitable containers for disposal. Wash area thoroughly. Limit inhalation of vapors.

## **SECTION VII: Handling and Storage**

**Precautions for Safe Handling:** Keep container tightly sealed when transporting. Avoid contact with eyes, skin and clothing. Do not take internally. Keep away from heat/sparks/open flames/hot surfaces.– No smoking.

**Conditions for Safe Storage, Including Any Incompatibilities:** Store locked up. Keep container tightly sealed when not in use. Store in a well-ventilated place. Keep cool. Keep out of reach of children.

## **SECTION VIII: Exposure Controls/Personal Protection**

### **Control Parameters:**

<b>Occupational Exposure Limits:</b>		
<b>Component</b>	<b>OSHA PEL</b>	<b>ACGIH TWA</b>
Morpholine	20 ppm	20 ppm

### **Exposure Controls:**

**Appropriate Engineering Controls** - Make sure work area is well ventilated to control vapors/mists.

**Individual Protection Measures (PPE)** - Wear protective gloves/protective clothing/eye protection/face protection. Wash skin thoroughly after handling.

## **SECTION IX: Physical and Chemical Properties**

<b>Information on Physical and Chemical Properties:</b>	
<b>Appearance:</b>	Clear yellow liquid
<b>Odor:</b>	Irritating ammonia odor
<b>Odor Threshold:</b>	Not determined
<b>pH:</b>	Not determined
<b>Melting point/freezing point:</b>	Not determined
<b>Initial boiling point and boiling range:</b>	102°C (216°F)
<b>Flash point:</b>	Not determined; Flash point of morpholine is 32°C

<b>Evaporation rate (Butyl Acetate =1):</b>	Slow
<b>Flammability (solid, gas):</b>	Not applicable
<b>Upper/lower flammability or exposure limits:</b>	Morpholine is flammable
<b>Vapor pressure:</b>	Not determined
<b>Vapor density (Air = 1):</b>	>1
<b>Relative density:</b>	Not determined
<b>Solubilit(ies):</b>	Soluble in water
<b>Partition coefficient: n-octano/water</b>	Not determined
<b>Auto-ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Viscosity:</b>	Not determined
<b>Specific gravity (Water = 1):</b>	1.017

## **SECTION X: Stability and Reactivity**

**Reactivity:** Reacts with oxidizing agents.

**Chemical Stability:** Stable

**Possibility of hazardous reactions:** Hazardous polymerization will not occur.

**Conditions to avoid:** Acids, strong oxidizers, and nitrites

**Incompatible materials:** Not intended to mix with oxidizing agents, and acids.

**Hazardous decomposition products:** Ammonia, toxic oxides of carbon, and nitrogen

## **SECTION XI: Toxicological Information**

### **Potential Health Effects:**

**Ingestion** – Morpholine is of moderate toxicity after single ingestion. Morpholine may cause gastric disturbances.

**Eye Contact** – Direct contact with eyes may cause irritation or eye damage.

**Skin Contact** – May cause skin irritation or damage. Morpholine is of pronounced toxicity after short-term skin contact.

**Inhalation** – Excessive inhalation may cause dizziness. Morpholine is of moderate toxicity after short-term inhalation and may cause temporary irritation of the respiratory tract.

### **Acute Toxicity Data:**

**Morpholine** - LD50 (oral rat) 1,910 mg/kg (BASF-Test); LC50 (inhalation rat) 8 mg/l; LD50 (dermal rabbit) 500 mg/kg

**Repeated Dose Toxicity:** Morpholine may cause damage to the lung after repeated inhalation. The substance may affect the liver and kidneys, as indicated in animal studies. After repeated exposure, the prominent effect is local irritation.

**Carcinogenicity:** Results from a number of long-term carcinogenicity studies and short-term tests are available. Taking into account all of the information, there is no indication that morpholine itself is carcinogenic. Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies. In long-term studies in rats and mice in which the substance was given by inhalation, a carcinogenic effect was not observed. IARC has determined that morpholine is not classifiable as to its carcinogenicity to humans (Group 3). OSHA and NTP do not list morpholine as a carcinogen.

## **SECTION XII: Ecological Information**

Ecological data are not available for the product itself. The data provided are for morpholine.

### **Toxicity:**

Acutely harmful for aquatic organisms. The inhibition of the degradation activity sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.



**Fish (Acute Toxicity) -**

LC50 (96 h): 180 mg/l , Salmo Gairdneri, syn. O. mykiss/ (Fish test acute, static)

The details of the toxic effect relate to the nominal concentration. The study was carried out in soft water.

LC50 (96 h): 380 mg/l , Salmo Gairdneri, syn. O. mykiss/ (Fish test acute, static)

The details of the toxic effect relate to the nominal concentration. The study was carried out in hard water.

**Fish (Chronic Toxicity) –**

Study scientifically not justified

**Aquatic Invertebrates (Acute Toxicity) –**

EC50 (48 h): 45 mg/l, Daphnia magna (OECD Guideline 202, part 1 static)

**Aquatic Invertebrates (Chronic Toxicity) –**

No observed effect concentration (21 d) 5 mg/l, daphnia magna (OECD Guideline 211, semistatic)

**Aquatic Plants-**

EC50 (96 h): 28 mg/l (Growth Inhibition Test)

EC0 (96 h): 10 mg/l (Growth Inhibition Test)

The statement of the toxic effect relates to the analytically determined concentration.

**Microorganisms –**

OECD Guideline 209 activated sludge, domestic/EC20 (30 min): > 1,000 mg/l

The details of the toxic effect relate to the nominal concentration.

OECD Guideline 209 activated sludge, industrial/EC20 (0.5 h): >1,000 mg/l

The details of the toxic effect relate to the nominal concentration.

DIN EN ISO 8192 activated sludge, industrial/EC20 (30 h): <1,000 mg/l

**Persistence and Degradability:**

**Assessment biodegradation and elimination (H20) –** Readily biodegradable (according to OECD criteria)

**Elimination information –** 90-100% DOC reduction (25 d) (OECD 301E/92/69/EEC. C.4-B) (aerobic, municipal sewage treatment plant effluent)

**Assessment of stability in water –** According to structural properties, hydrolysis is not expected/probable.

**Bio-accumulative potential:** Accumulation in organisms is not to be expected. Bioconcentration factor <2.8 (42 d), Cyprinus carpio (OECD Guideline 305 C)

**Mobility in Soil:** The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected. The data refers to the undissociated form of the substance.

**SECTION XIII: Disposal Considerations**

Dispose of in accordance with all Federal, State and Local regulations. For large quantities dispose as hazardous flammable waste in accordance with local/regional/national/international regulations.

**SECTION XIV: Transport Information**

Not regulated

**SECTION XV: Regulatory Information**

Not applicable

**SECTION XVI: Other Information**

Supersedes: 15 March 2013

Date Revised: 3 June 2015

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