

YOUNG™

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™ Credo Clave™
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:

Occupational Exposure Limits:		
Component	OSHA PEL	ACGIH TWA
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

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

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

The information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, Young Dental Manufacturing makes no recommendation as to the comprehensiveness or accuracy of the information. It is expected that individuals receiving the information will exercise their independent judgment in determining its appropriateness for particular purpose.

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