We create chemistry

# Safety Data Sheet
## Lupro-Cid®



## 1. Identification

### Product identifier used on the label

# Lupro-Cid®

### Recommended use of the chemical and restriction on use

Recommended use*: feed additive(s)
Unsuitable for use: Not intended for sale to or use by the general public.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

### Details of the supplier of the safety data sheet

Company:
BASF Mexicana S.A. de C.V.
Av. Insurgentes Sur 975
Col. CD. De Los Deportes,
C.P. 03710 Ciudad de México
MÉXICO

Telephone: +52 55 5325 2600

### Emergency telephone number
24 Hour Emergency Response Information
SETIQ: 1800-00-214-(Rep. Mexicana) or 55-59-15-88 (CDMX)
Telephone: +1-800-849-5204 or +1-833-229-1000

### Other means of identification
Synonyms: Preparation based on: Formic acid, propionic acid, Water

## 2. Hazards Identification

**According to Regulation NOM-018-STPS-2015**

### Classification of the product

| | | |
|---|---|---|
| Flam. Liq. | 3 | Flammable liquids |
| Acute Tox. | 4 (Inhalation - vapour) | Acute toxicity |
| Acute Tox. | 4 (oral) | Acute toxicity |
| Skin Corr. | 1A | Skin corrosion |

| | | |
|---|---|---|
| Eye Dam. | 1 | Serious eye damage |
| STOT SE | 3 (irritating to respiratory system) | Specific target organ toxicity — single exposure |

### Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H335 | May cause respiratory irritation. |
| H314 | Causes severe skin burns and eye damage. |
| H302 + H332 | Harmful if swallowed or if inhaled. |

Precautionary Statements (Prevention):

| | |
|---|---|
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves, protective clothing and eye protection or face protection. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P260 | Do not breathe dust/gas/mist/vapours. |
| P243 | Take action to prevent static discharges. |
| P241 | Use explosion-proof electrical, ventilating and lighting equipment. |
| P270 | Do not eat, drink or smoke when using this product. |
| P264 | Wash contaminated body parts thoroughly after handling. |
| P240 | Ground and bond container and receiving equipment. |
| P242 | Use non-sparking tools. |

Precautionary Statements (Response):

| | |
|---|---|
| P310 | Immediately call a POISON CENTER or physician. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. |
| P301 + P330 + P331 | IF SWALLOWED: rinse mouth. Do NOT induce vomiting. |
| P363 | Wash contaminated clothing before reuse. |
| P370 + P378 | In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water spray for extinction. |

Precautionary Statements (Storage):

| | |
|---|---|
| P233 | Keep container tightly closed. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |

Precautionary Statements (Disposal):

| | |
|---|---|
| P501 | Dispose of contents/container in accordance with local regulations. |

### Hazards not otherwise classified

No applicable information available.

Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 11 %

## 3. Composition / Information on Ingredients

**According to Regulation NOM-018-STPS-2015**

Formic Acid
CAS Number: 64-18-6
Content (W/W): 60.0 - 80.0%
Synonym: No data available.

propionic acid
CAS Number: 79-09-4
Content (W/W): 10.0 - 30.0%
Synonym: Propanoic acid; Propionic acid

The actual concentration is withheld as a trade secret.

## 4. First-Aid Measures

### Description of first aid measures

**General advice:**
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

**If inhaled:**
Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

**If on skin:**
Remove contaminated clothing. Wash skin with soap and water, rinse abundantly. Seek medical attention.

**If in eyes:**
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. If irritation develops, seek medical attention.

**If swallowed:**
Do not induce vomiting. Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

### Most important symptoms and effects, both acute and delayed

*Information on: Formic Acid*
*Symptoms: Overexposure may cause:, vomiting, aspiration pneumonia, circulatory collapse, death, acidosis, abdominal cramps, dyspnea, hypotension (low blood pressure), nausea, diarrhea, salivation*
---

### Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:
water spray, dry powder, alcohol-resistant foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. The product is combustible.

### Advice for fire-fighters

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

**Further information:**
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.
Cool endangered containers with water-spray.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8. Ensure adequate ventilation. Do not breathe vapour/spray. Wear respiratory protection if ventilation is inadequate. Avoid contact with the skin, eyes and clothing. Take off immediately all contaminated clothing. Avoid all sources of ignition: heat, sparks, open flame.

### Environmental precautions

Do not discharge into drains/surface waters/groundwater.

### Methods and material for containment and cleaning up

For small amounts: Contain with absorbent material (e.g. sand, silica gel, acid binder, general purpose binder, sawdust).

For large amounts: Dike spillage. Cover with blanket of foam (alcohol-resistant foam). Pump off product.
For residues: Pick up with suitable absorbent material.
Dispose of absorbed material in accordance with regulations. Cleaning operations should be carried out only while wearing breathing apparatus.

## 7. Handling and Storage

### Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed.

Protection against fire and explosion:
The product is combustible. Avoid all sources of ignition: heat, sparks, open flame. Take precautionary measures against static discharges. If exposed to fire, keep containers cool by spraying with water. Vapours may form explosive mixture with air.

### Conditions for safe storage, including any incompatibilities

Segregate from alkalies and alkalizing substances.

Suitable materials for containers: glass, Stainless steel 1.4401, Stainless steel 1.4301 (V2), Aluminium, High density polyethylene (HDPE), Low density polyethylene (LDPE)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect containers from physical damage.

## 8. Exposure Controls/Personal Protection

**Components with occupational exposure limits**

| | | |
|---|---|---|
| Formic Acid | OEL, MX: | TWA value 5 ppm ; |
| | OEL, MX: | STEL value 10 ppm ; |
| propionic acid | OEL, MX: | TWA value 10 ppm ; |

**Personal protective equipment**

**Respiratory protection:**
Respiratory protection in case of vapour/aerosol release. Wear a NIOSH-certified (or equivalent) respirator as necessary.

**Hand protection:**
Wear impermeable chemical resistant protective gloves.

**Eye protection:**
Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

**Body protection:**
Body protection must be chosen based on level of activity and exposure.

**General safety and hygiene measures:**
Avoid contact with the skin, eyes and clothing. Do not inhale gases/vapours/aerosols. Wearing of closed work clothing is required additionally to the stated personal protection equipment. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

## 9. Physical and Chemical Properties

| | | |
|---|---|---|
| Physical state: | liquid | |
| Form: | liquid | |
| Odour: | pungent | |
| Odour threshold: | Not determined due to potential health hazard by inhalation. | |
| Colour: | Colourless to reddish | |
| pH value: | 1.5 - 1.9<br>( 100 g/l) | |
| Melting point: | -18.2 °C | |
| Freezing point: | No data available. | |
| Boiling range: | 107 - 117 °C | (DIN 53171) |
| Flash point: | 55.5 °C | (DIN 51755) |
| Flammability: | Flammable liquid and vapour. | (derived from flash - and boiling point) |
| Lower explosion limit: | For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point. | |
| Upper explosion limit: | For liquids not relevant for classification and labelling. | |
| Autoignition: | 534 °C | |
| Vapour pressure: | 24 hPa<br>( 20 °C) | |
| Density: | approx. 1.15 g/cm3<br>( 20 °C) | |
| Relative vapour density: | > 1<br>( 20 °C)<br>Heavier than air. | (calculated) |
| Partitioning coefficient n-octanol/water (log Pow): | not applicable for mixtures | |
| *Information on: Formic Acid* | | |
| Partitioning coefficient n-octanol/water (log Pow): | -2.1<br>( 23 °C)<br>-1.9<br>( 23 °C)<br>-2.3<br>( 23 °C) | (Directive 92/69/EEC, A.8)<br>(Directive 92/69/EEC, A.8)<br>(Directive 92/69/EEC, A.8) |
| *Information on: propionic acid* | | |
| Partitioning coefficient n-octanol/water (log Pow): | 0.33<br>Literature data. | (measured) |

---

| | |
|---|---|
| Thermal decomposition: | >= 95 °C (DSC (DIN 51007)) |
| *Information on: Formic Acid* | |
| *Thermal decomposition:* | *350 °C, > 150 kJ/kg (DSC (DIN 51007))* |
| *Information on: propionic acid* | |
| *Thermal decomposition:* | *(DSC (DIN 51007))*<br>*No exothermic decomposition within the mentioned temperature range. It is not a self-decompositionable substance.* |

---

| | | |
|---|---|---|
| Viscosity, dynamic: | approx. 1.86 mPa.s ( 20 °C) | |
| Viscosity, kinematic: | 1.61 mm2/s ( 20 °C) calculated | (calculated (from dynamic viscosity)) |
| Solubility in water: | fully soluble | |
| Molecular weight: | No data available. | |

Particle characteristics

No applicable information available.

## 10. Stability and Reactivity

### Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
In the presence of water or moisture metal corrosion cannot be excluded. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

### Chemical stability
The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions
Reacts with alkalies. Exothermic reaction.

### Conditions to avoid
Avoid electro-static discharge. Avoid all sources of ignition: heat, sparks, open flame.

### Incompatible materials
alkalies

### Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
>= 95 °C (DSC (DIN 51007))

## 11. Toxicological information

#### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

**Acute Toxicity/Effects**

Acute toxicity
Assessment of acute toxicity: Of moderate toxicity after short-term inhalation. Of moderate toxicity after single ingestion.

Oral
Type of value: ATE
Value: 1,150 mg/kg

*Information on: Formic Acid*
*Type of value: LD50*
*Species: rat (male/female)*
*Value: 730 mg/kg (OECD Guideline 401)*

*Information on: propionic acid*
*Type of value: LD50*
*Species: rat (male/female)*
*Value: 3,455 mg/kg (similar to OECD guideline 401)*
---

Inhalation
Type of value: ATE
Value: 12.3 mg/l
Determined for vapor

*Information on: Formic Acid*
*Type of value: LC50*
*Species: rat (male/female)*
*Value: 7.85 mg/l (BASF-Test)*
*Exposure time: 4 h*
*The vapour was tested.*

*Information on: propionic acid*
*Type of value: LC50*
*Species: rat (male/female)*
*Value: > 19.7 mg/l (OECD Guideline 403)*
*Exposure time: 1 h*
*The vapour was tested.*

*Type of value: LC0*
*Species: rat (male/female)*
*Value: 24.4 mg/l (IRT)*
*Exposure time: 8 h*
*The vapour was tested.*
*Literature data. No mortality within the stated exposition time as shown in animal studies.*
---

Dermal
Type of value: ATE
Value: > 5,000 mg/kg

*Information on: propionic acid*
*Type of value: LD50*
*Species: rat (female)*

*Value: 3,235 mg/kg (similar to OECD guideline 402)*
---

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Irritation / corrosion
Assessment of irritating effects: Corrosive! Damages skin and eyes. May cause severe damage to the eyes.

*Information on: Formic Acid*
*Assessment of irritating effects: Highly corrosive! Damages skin and eyes.*

*Information on: propionic acid*
*Assessment of irritating effects: Corrosive! Damages skin and eyes.*
---

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

*Information on: Formic Acid*
*Buehler test*
*Species: guinea pig*
*Result: Non-sensitizing.*
*Method: OECD Guideline 406*

*Information on: propionic acid*
*Guinea pig maximization test*
*Species: guinea pig*
*Result: Non-sensitizing.*
*Method: similar to OECD guideline 406*
*The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*
---

Aspiration Hazard
No aspiration hazard expected.

**Chronic Toxicity/Effects**

Repeated dose toxicity
Assessment of repeated dose toxicity: Based on available data, the classification criteria are not met.

*Information on: Formic Acid*
*Assessment of repeated dose toxicity: No substance-specific organtoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

*Information on: propionic acid*
*Assessment of repeated dose toxicity: No substance-specific organtoxicity was observed after repeated administration to animals. After repeated administration the prominent effect is the induction of corrosion.*
---

Genetic toxicity
Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture.

*Information on: Formic Acid*
*Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in an insect test. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.*

*Information on: propionic acid*
*Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.*
---

Carcinogenicity
Assessment of carcinogenicity: In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was not observed.

*Information on: Formic Acid*
*Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

*Information on: propionic acid*
*Assessment of carcinogenicity: In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was not observed.*
---

Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

*Information on: Formic Acid*
*Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

*Information on: propionic acid*
*Assessment of reproduction toxicity: No data available. Study scientifically not justified.*
---

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

*Information on: Formic Acid*
*Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

*Information on: propionic acid*
*Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*
---

Other Information
The product has not been tested. The statement has been derived from the properties of the individual components.

## 12. Ecological Information

### Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.
The product gives rise to pH shifts.

Assessment of terrestrial toxicity
No data available.

Toxicity to terrestrial plants

*Information on: propionic acid*
*EC50 (3 d) 125.8 mg/l 188.7 mg/kg, Lactuca sativa*
*Literature data.*
---

### Microorganisms/Effect on activated sludge

Toxicity to microorganisms

*Information on: Formic Acid*
*OECD Guideline 209 aerobic*
*activated sludge, domestic, non-adapted/EC10 (3 h): > 500 mg/l*
*No effects at the highest test concentration. Nominal concentration.*

*Information on: propionic acid*
*DIN EN ISO 8192 aquatic*
*activated sludge, domestic/EC20 (30 min): 500 - 1,040 mg/l*
*The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*
---

### Persistence and degradability

Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria).

### Bioaccumulative potential

Assessment bioaccumulation potential
Significant accumulation in organisms is not to be expected.

### Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

### Additional information

Add. remarks environm. fate & pathway:
The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

Other ecotoxicological advice:
The product has not been tested. The statement has been derived from the properties of the individual components.

## 13. Disposal considerations

**Waste disposal of substance:**
Observe national and local legal requirements.

**Container disposal:**
Dispose of in accordance with national, state and local regulations.

## 14. Transport Information

**Land transport**
TDG

| | |
|---|---|
| Hazard class: | 8 |
| Packing group: | II |
| ID number: | UN 2920 |
| Hazard label: | 8, 3 |
| Proper shipping name: | CORROSIVE LIQUID, FLAMMABLE, N.O.S. (contains FORMIC ACID, PROPIONIC ACID) |

**Sea transport**
IMDG

| | |
|---|---|
| Hazard class: | 8 |
| Packing group: | II |
| ID number: | UN 2920 |
| Hazard label: | 8, 3 |
| Marine pollutant: | NO |
| Proper shipping name: | CORROSIVE LIQUID, FLAMMABLE, N.O.S. (contains FORMIC ACID, PROPIONIC ACID) |

**Air transport**
IATA/ICAO

| | |
|---|---|
| Hazard class: | 8 |
| Packing group: | II |
| ID number: | UN 2920 |

| | |
|---|---|
| Hazard label: | 8, 3 |
| Proper shipping name: | CORROSIVE LIQUID, FLAMMABLE, N.O.S. (contains FORMIC ACID, PROPIONIC ACID) |

## 15. Regulatory Information

**Federal Regulations**

Not applicable

**NFPA Hazard codes:**
Health: 3 Fire: 2 Reactivity: 0 Special:

**HMIS III rating**
Health: 3 Flammability: 2 Physical hazard: 0

**Assessment of the hazard classes according to UN GHS criteria (most recent version):**

| | | |
|---|---|---|
| Flam. Liq. | 3 | Flammable liquids |
| Acute Tox. | 4 (oral) | Acute toxicity |
| Acute Tox. | 4 (Inhalation - vapour) | Acute toxicity |
| Acute Tox. | 5 (dermal) | Acute toxicity |
| Skin Corr./Irrit. | 1B | Skin corrosion/irritation |
| Eye Dam./Irrit. | 1 | Serious eye damage/eye irritation |
| STOT SE | 3 (irritating to respiratory system) | Specific target organ toxicity — single exposure |

## 16. Other Information

**SDS Prepared by:**
BASF NA Product Regulations
SDS Prepared on: 2025/08/28

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

Date / Revised: 2025/08/28 Version: 4.0
Date / Previous version: 2022/11/03 Previous version: 3.0

END OF DATA SHEET