

**Multi Acid (with Calcium Carbonate) Formulation**

|         |                |                |                                 |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number:    | Date of last issue: 04.02.2025  |
| 2.0     | 14.04.2025     | 11506982-00002 | Date of first issue: 04.02.2025 |

**SECTION 1. IDENTIFICATION**

Product name : Multi Acid (with Calcium Carbonate) Formulation

Product code : Latisan

**Manufacturer or supplier's details**

Company : MSD

Address : Talcahuano 750, 6th floor, Ciudad Autonoma  
Buenos Aires, Argentina C1013AAP

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product

Restrictions on use : Not applicable

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Serious eye damage/eye irritation : Category 1

Germ cell mutagenicity : Category 2

**GHS label elements**

Hazard pictograms :  

Signal Word : Danger

Hazard Statements : H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.

Precautionary Statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/ protective clothing/ eye protec-

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tion/ face protection.

**Response:**

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Additional Labeling**

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 22,5 %

**Other hazards which do not result in classification**

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

| Chemical name     | CAS-No.   | Concentration (% w/w) |
|-------------------|-----------|-----------------------|
| Sanguinarine      | 2447-54-3 | >= 20 -< 30           |
| Calcium diformate | 544-17-2  | >= 3 -< 5             |
| Phosphoric acid   | 7664-38-2 | >= 1 -< 3             |
| Formic acid       | 64-18-6   | >= 0,1 -< 1           |

**SECTION 4. FIRST AID MEASURES**

- |                         |                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice          | : In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.                                                                |
| If inhaled              | : If inhaled, remove to fresh air.<br>Get medical attention.                                                                                                                                                            |
| In case of skin contact | : In case of contact, immediately flush skin with soap and plenty of water.<br>Remove contaminated clothing and shoes.<br>Get medical attention.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse. |
| In case of eye contact  | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.<br>If easy to do, remove contact lens, if worn.                                                                              |

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|                                                             |   |                                                                                                                                                                             |
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| If swallowed                                                | : | Get medical attention immediately.<br>If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water.                                 |
| Most important symptoms and effects, both acute and delayed | : | Contact with dust can cause mechanical irritation or drying of the skin.<br>Causes serious eye damage.<br>Suspected of causing genetic defects.                             |
| Protection of first-aiders                                  | : | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| Notes to physician                                          | : | Treat symptomatically and supportively.                                                                                                                                     |

### SECTION 5. FIRE-FIGHTING MEASURES

|                                                |   |                                                                                                                                                                                                                                                 |
|------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                   | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical                                                                                                                                                      |
| Unsuitable extinguishing media                 | : | None known.                                                                                                                                                                                                                                     |
| Specific hazards during fire fighting          | : | Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.<br>Exposure to combustion products may be a hazard to health.                   |
| Hazardous combustion products                  | : | Carbon oxides<br>Metal oxides<br>Oxides of phosphorus<br>Nitrogen oxides (NO <sub>x</sub> )                                                                                                                                                     |
| Specific extinguishing methods                 | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment.                                                                                                                                            |

### SECTION 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |   |                                                                                                                                                                                                              |
|---------------------------------------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).                                                         |
| Environmental precautions                                           | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages |

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cannot be contained.

Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.  
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).  
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

**SECTION 7. HANDLING AND STORAGE**

Technical measures : Static electricity may accumulate and ignite suspended dust causing an explosion.  
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not breathe dust.  
Do not swallow.  
Do not get in eyes.  
Avoid prolonged or repeated contact with skin.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Minimize dust generation and accumulation.  
Keep container closed when not in use.  
Keep away from heat and sources of ignition.  
Take precautionary measures against static discharges.  
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Keep tightly closed.  
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters**

| Components | CAS-No. | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis |
|------------|---------|----------------------------------|------------------------------------------------|-------|
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|-----------------|-----------|-----------|---------------------|--------|
| Phosphoric acid | 7664-38-2 | CMP       | 1 mg/m <sup>3</sup> | AR OEL |
|                 |           | CMP - CPT | 3 mg/m <sup>3</sup> | AR OEL |
|                 |           | TWA       | 1 mg/m <sup>3</sup> | ACGIH  |
|                 |           | STEL      | 3 mg/m <sup>3</sup> | ACGIH  |
| Formic acid     | 64-18-6   | CMP       | 5 ppm               | AR OEL |
|                 |           | CMP - CPT | 10 ppm              | AR OEL |
|                 |           | TWA       | 5 ppm               | ACGIH  |

**Engineering measures** : All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices). Minimize open handling.

### Personal protective equipment

**Respiratory protection** : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

**Filter type** : Combined particulates, acidic and inorganic gas/vapor type

**Hand protection**

**Material** : Chemical-resistant gloves

**Remarks** : Consider double gloving.

**Eye protection** : Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

**Skin and body protection** : Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.

**Hygiene measures** : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : powder

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|                                                  |   |                                                                                 |
|--------------------------------------------------|---|---------------------------------------------------------------------------------|
| Color                                            | : | white                                                                           |
| Odor                                             | : | No data available                                                               |
| Odor Threshold                                   | : | No data available                                                               |
| pH                                               | : | No data available                                                               |
| Melting point/freezing point                     | : | No data available                                                               |
| Initial boiling point and boiling range          | : | No data available                                                               |
| Flash point                                      | : | Not applicable                                                                  |
| Evaporation rate                                 | : | Not applicable                                                                  |
| Flammability (solid, gas)                        | : | May form explosive dust-air mixture during processing, handling or other means. |
| Flammability (liquids)                           | : | Not applicable                                                                  |
| Upper explosion limit / Upper flammability limit | : | No data available                                                               |
| Lower explosion limit / Lower flammability limit | : | No data available                                                               |
| Vapor pressure                                   | : | Not applicable                                                                  |
| Relative vapor density                           | : | Not applicable                                                                  |
| Relative density                                 | : | No data available                                                               |
| Density                                          | : | No data available                                                               |
| Solubility(ies)<br>Water solubility              | : | No data available                                                               |
| Partition coefficient: n-octanol/water           | : | Not applicable                                                                  |
| Autoignition temperature                         | : | No data available                                                               |
| Decomposition temperature                        | : | No data available                                                               |
| Viscosity<br>Viscosity, kinematic                | : | Not applicable                                                                  |
| Explosive properties                             | : | Not explosive                                                                   |
| Oxidizing properties                             | : | The substance or mixture is not classified as oxidizing.                        |

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Molecular weight : No data available

Particle characteristics  
Particle size : No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard.  
Chemical stability : Stable under normal conditions.  
Possibility of hazardous reactions : May form explosive dust-air mixture during processing, handling or other means.  
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.  
Avoid dust formation.

Incompatible materials : Oxidizing agents  
Hazardous decomposition products : No hazardous decomposition products are known.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity : Acute toxicity estimate: > 5.000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Calculation method

**Components:****Sanguinarine:**

Acute oral toxicity : LD50 (Rat): 1.660 mg/kg

**Calcium diformate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on data from similar materials

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**II****Phosphoric acid:**

|                           |                                                              |
|---------------------------|--------------------------------------------------------------|
| Acute oral toxicity       | : LD50 (Rat): 2.000 mg/kg<br>Method: OECD Test Guideline 423 |
| Acute inhalation toxicity | : Assessment: Corrosive to the respiratory tract.            |

**Formic acid:**

|                           |                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : Acute toxicity estimate (Humans): 500 mg/kg<br>Method: Expert judgment                                                  |
| Acute inhalation toxicity | : LC50 (Rat): 7,4 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Assessment: Corrosive to the respiratory tract. |
| Acute dermal toxicity     | : LD50 (Rat): > 2.000 mg/kg<br>Remarks: Based on data from similar materials                                              |

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Calcium diformate:**

|         |                           |
|---------|---------------------------|
| Species | : Rabbit                  |
| Method  | : OECD Test Guideline 404 |
| Result  | : No skin irritation      |

**Phosphoric acid:**

|         |                                                   |
|---------|---------------------------------------------------|
| Result  | : Corrosive after 3 minutes to 1 hour of exposure |
| Remarks | : Based on national or regional regulation.       |

**Formic acid:**

|         |                                                 |
|---------|-------------------------------------------------|
| Result  | : Corrosive after 3 minutes or less of exposure |
| Remarks | : Based on extreme pH                           |

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:****Calcium diformate:**

|         |                                   |
|---------|-----------------------------------|
| Species | : Rabbit                          |
| Result  | : Irreversible effects on the eye |
| Method  | : OECD Test Guideline 405         |

**Phosphoric acid:**

|         |          |
|---------|----------|
| Species | : Rabbit |
|---------|----------|

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|| Result : Irreversible effects on the eye

**Formic acid:**

|| Result : Irreversible effects on the eye  
|| Remarks : Based on skin corrosivity.

**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Components:****Calcium diformate:**

|| Test Type : Maximization Test  
|| Routes of exposure : Skin contact  
|| Species : Guinea pig  
|| Method : OECD Test Guideline 406  
|| Result : negative  
|| Remarks : Based on data from similar materials

**Formic acid:**

|| Test Type : Buehler Test  
|| Routes of exposure : Skin contact  
|| Species : Guinea pig  
|| Method : OECD Test Guideline 406  
|| Result : negative

**Germ cell mutagenicity**

Suspected of causing genetic defects.

**Components:****Sanguinarine:**

|| Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: positive  
  
Test Type: in vitro micronucleus test  
Result: negative  
  
Test Type: DNA damage and repair, unscheduled DNA syn-  
thesis in mammalian cells (in vitro)  
Result: positive  
  
|| Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow  
cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: positive

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Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

## Calcium diformate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Sex-linked recessive lethal test in *Drosophila melanogaster* (in vivo)  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

## Phosphoric acid:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

## Formic acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Sex-linked recessive lethal test in *Drosophila melanogaster* (in vivo)  
Application Route: Ingestion  
Method: OECD Test Guideline 477  
Result: negative

## Carcinogenicity

Not classified based on available information.

## Components:

### Formic acid:

Species : Rat  
Application Route : Ingestion  
Exposure time : 104 weeks  
Result : negative  
Remarks : Based on data from similar materials

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**Reproductive toxicity**

Not classified based on available information.

**Components:****Calcium diformate:**

|                      |   |                                                                                                                                                                                                               |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 416<br>Result: negative<br>Remarks: Based on data from similar materials |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                              |   |                                                                                                                                                                                                |
|------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rabbit<br>Application Route: Ingestion<br>Method: OECD Test Guideline 414<br>Result: negative<br>Remarks: Based on data from similar materials |
|------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Phosphoric acid:**

|                      |   |                                                                                                                                                                                                                     |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 422<br>Result: negative |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                              |   |                                                                                                                                                                                                                     |
|------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fetal development | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 422<br>Result: negative |
|------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Formic acid:**

|                      |   |                                                                                                                                                                                                               |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 416<br>Result: negative<br>Remarks: Based on data from similar materials |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                              |   |                                                                                                                                                                                                |
|------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rabbit<br>Application Route: Ingestion<br>Method: OECD Test Guideline 414<br>Result: negative<br>Remarks: Based on data from similar materials |
|------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Not classified based on available information.

**Components:****Sanguinarine:**

|            |   |                                                                                              |
|------------|---|----------------------------------------------------------------------------------------------|
| Assessment | : | No significant health effects observed in animals at concentrations of 100 mg/kg bw or less. |
|------------|---|----------------------------------------------------------------------------------------------|

**Repeated dose toxicity****Components:****Sanguinarine:**

|                   |   |                                               |
|-------------------|---|-----------------------------------------------|
| Species           | : | Rat                                           |
| NOAEL             | : | 7,7 mg/kg                                     |
| Application Route | : | Ingestion                                     |
| Exposure time     | : | 90 Days                                       |
| Method            | : | OECD Test Guideline 408                       |
| Remarks           | : | The test was conducted according to guideline |

**Calcium diformate:**

|                   |   |                                      |
|-------------------|---|--------------------------------------|
| Species           | : | Rat                                  |
| NOAEL             | : | 3.000 mg/kg                          |
| Application Route | : | Ingestion                            |
| Exposure time     | : | 13 Weeks                             |
| Method            | : | OECD Test Guideline 408              |
| Remarks           | : | Based on data from similar materials |

**Phosphoric acid:**

|                   |   |                         |
|-------------------|---|-------------------------|
| Species           | : | Rat                     |
| NOAEL             | : | 250 mg/kg               |
| Application Route | : | Ingestion               |
| Exposure time     | : | 40 - 52 Days            |
| Method            | : | OECD Test Guideline 422 |

**Formic acid:**

|                   |   |                                      |
|-------------------|---|--------------------------------------|
| Species           | : | Rat                                  |
| NOAEL             | : | 400 mg/kg                            |
| Application Route | : | Ingestion                            |
| Exposure time     | : | 52 Weeks                             |
| Remarks           | : | Based on data from similar materials |

**Aspiration toxicity**

Not classified based on available information.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### **Sanguinarine:**

#### **Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic effects cannot be excluded

Chronic aquatic toxicity : Toxic effects cannot be excluded

#### **Calcium diformate:**

Toxicity to fish : LC0 (Danio rerio (zebra fish)):  $\geq 1.000$  mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)):  $> 1.000$  mg/l  
Exposure time: 48 h  
Method: EPA-660/3-75-009  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)):  $> 1.000$  mg/l  
Exposure time: 72 h  
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 500 mg/l  
Exposure time: 72 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)):  $\geq 100$  mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC:  $\geq 22,1$  mg/l  
Exposure time: 28 d  
Remarks: Based on data from similar materials

#### **Phosphoric acid:**

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)):  $> 100$  mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)):  $> 100$  mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)):  $> 100$  mg/l  
Exposure time: 72 h

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|                            |                                                          |
|----------------------------|----------------------------------------------------------|
|                            | Method: OECD Test Guideline 201                          |
|                            | NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l |
|                            | Exposure time: 72 h                                      |
|                            | Method: OECD Test Guideline 201                          |
| Toxicity to microorganisms | : EC50: > 100 mg/l                                       |
|                            | Exposure time: 3 h                                       |
|                            | Method: OECD Test Guideline 209                          |
|                            | Remarks: Based on data from similar materials            |

**Formic acid:**

|                                                                        |                                                                     |
|------------------------------------------------------------------------|---------------------------------------------------------------------|
| Toxicity to fish                                                       | : LC50 (Danio rerio (zebra fish)): 130 mg/l                         |
|                                                                        | Exposure time: 96 h                                                 |
|                                                                        | Method: OECD Test Guideline 203                                     |
|                                                                        | Remarks: Based on data from similar materials                       |
| Toxicity to daphnia and other aquatic invertebrates                    | : EC50 (Daphnia magna (Water flea)): 365 mg/l                       |
|                                                                        | Exposure time: 48 h                                                 |
|                                                                        | Method: OECD Test Guideline 202                                     |
|                                                                        | Remarks: Based on data from similar materials                       |
| Toxicity to algae/aquatic plants                                       | : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1.240 mg/l |
|                                                                        | Exposure time: 72 h                                                 |
|                                                                        | Method: OECD Test Guideline 201                                     |
|                                                                        | Remarks: Based on data from similar materials                       |
|                                                                        | EC10 (Pseudokirchneriella subcapitata (green algae)): 295 mg/l      |
|                                                                        | Exposure time: 72 h                                                 |
|                                                                        | Method: OECD Test Guideline 201                                     |
|                                                                        | Remarks: Based on data from similar materials                       |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Daphnia magna (Water flea)): > 100 mg/l                     |
|                                                                        | Exposure time: 21 d                                                 |
|                                                                        | Method: OECD Test Guideline 211                                     |
| Toxicity to microorganisms                                             | : NOEC: 72 mg/l                                                     |
|                                                                        | Exposure time: 13 d                                                 |

**Persistence and degradability****Components:****Calcium diformate:**

|                  |                                               |
|------------------|-----------------------------------------------|
| Biodegradability | : Result: Readily biodegradable.              |
|                  | Biodegradation: 86 %                          |
|                  | Exposure time: 28 d                           |
|                  | Method: OECD Test Guideline 306               |
|                  | Remarks: Based on data from similar materials |

**Multi Acid (with Calcium Carbonate) Formula-  
tion**

|         |                |                |                                 |
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**Formic acid:**

|                  |   |                                                                                                                    |
|------------------|---|--------------------------------------------------------------------------------------------------------------------|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: 100 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301C |
|------------------|---|--------------------------------------------------------------------------------------------------------------------|

**Bioaccumulative potential****Components:****Sanguinarine:**

|                                        |   |                                          |
|----------------------------------------|---|------------------------------------------|
| Partition coefficient: n-octanol/water | : | log Pow: < 4<br>Remarks: Expert judgment |
|----------------------------------------|---|------------------------------------------|

**Calcium diformate:**

|                                        |   |                                                                       |
|----------------------------------------|---|-----------------------------------------------------------------------|
| Partition coefficient: n-octanol/water | : | log Pow: -2,3 - -1,9<br>Remarks: Based on data from similar materials |
|----------------------------------------|---|-----------------------------------------------------------------------|

**Formic acid:**

|                                        |   |               |
|----------------------------------------|---|---------------|
| Partition coefficient: n-octanol/water | : | log Pow: -2,1 |
|----------------------------------------|---|---------------|

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

|                        |   |                                                                                                                                                             |
|------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste from residues    | : | Do not dispose of waste into sewer.<br>Dispose of in accordance with local regulations.                                                                     |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>If not otherwise specified: Dispose of as unused product. |

**SECTION 14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

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**Special precautions for user**

Not applicable

**SECTION 15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**

Argentina. Carcinogenic Substances and Agents Registry. : Not applicable

Control of precursors and essential chemicals for the preparation of drugs. : Calcium diformate  
Formic acid**The ingredients of this product are reported in the following inventories:**

AICS : not determined

DSL : not determined

IECSC : not determined

**SECTION 16. OTHER INFORMATION**Revision Date : 14.04.2025  
Date format : dd.mm.yyyy**Further information**Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

**Full text of other abbreviations**ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
AR OEL : Argentina. Occupational Exposure LimitsACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
AR OEL / CMP : TLV (Threshold Limit Value)  
AR OEL / CMP - CPT : STEL (Short Term Limit Value)

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA

**Multi Acid (with Calcium Carbonate) Formula-  
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- International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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