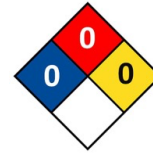




Material Safety Data Sheet



| | |
|---------------------|---|
| Health | 0 |
| Fire | 0 |
| Reactivity | 0 |
| Personal Protection | E |

Product name: Clodronate Liposomes and Alendronate Liposomes
Synonyms: Clophosome®, Clophosome®-A, Control plain liposomes for Clophosomes
Product code: F70101C-A, F70101C-N, F70101-N, F70101-A, F70101C-NAS, F70101F-A, F70101F-N, F70101C-NH, F70101C-AH, F70101C-NL, F70101C-AL, F70103C-A, F70103C-N
Revision date: 01/01/2023

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING

Supplier:
FormuMax Scientific, Inc.
1230 Bordeaux Dr.
Sunnyvale, CA 94089

Emergency telephone number: (408) 607-5788 (24 hours)
(408) 400-0108 (US daytime)

Product name: Liposomal Clodronate
Synonyms: Clophosome®, Clophosome®-A
Product code: F70101C-NA, F70101C-N, F70101C-A
Therapeutic class: none
Intended Use: Used in research only, not for human use

2. HAZARDS IDENTIFICATION

Emergency overview:

This material is not a controlled product under WHMIS

Properties affecting health: n/a

Principle routes of exposure:

Eye Contact: n/a
Skin contact: n/a
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful by inhalation.

Physico-chemical properties: No hazards resulting from material as supplied.

Hazard information:

Target organ effects: n/a
Reproductive effects: n/a
Mutagenic effects: n/a
Sensitization: n/a

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS Number | Weight % |
|---|----------------------|----------|
| Water | 7732-18-5 | 80-85 |
| Sodium chloride | 7647-14-5 | 1 |
| Soy phosphatidylcholine (lecithin) | 8002-43-5 | 1-2 |
| Bisphosphonate (clodronate/alendronate disodium) | 22560-50-5 | 0.5-0.9 |
| Cholesterol | 57-88-5 | 0.3-0.5 |
| Phosphatidylglycerol (F70101C-A, F70101-A) | 322647-44-9 | 0.3-0.5 |
| Sodium phosphate (Na ₂ HPO ₄ , NaH ₂ PO ₄) | 7558-80-7, 7558-79-4 | <0.3 |
| Fluorescent dye, Dil (F70101F-A, F70101F-N) | 41085-99-8 | <0.01 |

4. FIRST AID MEASURES

| | |
|------------------------------------|--|
| Oral Exposure: | if swallowed, wash out mouth with water provided person is conscious. Call a physician |
| Eye contact: | In the case of contact with eyes, check for and remove any contact lenses, rinse immediately with plenty of water for 15 minutes and seek medical attention. |
| Skin contact: | Remove contaminated clothing immediately and wash skin generously with soap and water. In the case of skin irritation or allergic reactions see a physician. |
| Ingestion: | Do not induce vomiting. Call a physician immediately. |
| Inhalation: | Move to fresh air immediately. If experiencing difficulty breathing, seek medical attention. |
| Notes to physician: | Monitor a complete blood and platelet counts. |
| Protection of first-aiders: | Follow bloodborne pathogen procedures in the event of accidental injection. |

5. FIRE-FIGHTING MEASURES

| | |
|---|--|
| Flash point: | n/a |
| Autoignition temp: | n/a |
| Flammability: | n/a |
| Suitable extinguishing media: | Carbon dioxide, dry chemical powder, foam water spray. |
| Extinguishing media which must not be used for safety reasons: | None. |
| Special protective equipment for firefighters: | Wear self-contained breathing apparatus and protective suit. |
| Specific methods: | None. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|-----------------------------------|---|
| Personal precautions: | Wear splash goggles and skin protection. Use suitable protective equipment. |
| Environmental precautions: | Collect and discard into appropriate container, then dispose of in accordance with all applicable federal, state and local regulations. |
| Methods for cleaning up: | Wipe up with absorbent material (e.g. cloth, fleece). |

7. HANDLING AND STORAGE

| | |
|--|--|
| Handling: Technical measures/precautions: | No special technical protective measures required. |
| Safe handling advice: | Avoid contact with skin and eyes. Wash thoroughly after handling. |
| Storage: Technical measures/storage conditions: | Keep at temperatures between 2 and 8 °C. Keep refrigerated. Do not freeze. |

Incompatible products: No special restrictions on storage with other products.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Handle, weigh or transfer in a chemical fume hood, vented enclosure or with effective local exhaust ventilation.
Avoid generation of aerosols outside of containment when priming syringes.

Personal protective equipment

Eye protection: Safety glasses with side-shields, goggles, or face shield required.
Hand protection: Protective gloves recommended when manufacturing product.
Skin and body protection: Lab coats are recommended to be worn to minimize the potential for skin exposure.
Respiratory protection: None required.
Other/general protection: none

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Appearance: Liquid white dispersion
Color: white
Odor: none

Important Health Safety and Environmental Information

| | | | |
|--------------------------|------|--------------------------|---------|
| Flash point: | n/a | pH: | 6.5-7.5 |
| Specific gravity: | 1.04 | Water solubility: | Soluble |

Other information

Explosivity: None.

10. STABILITY AND REACTIVITY

Chemical stability: Stable at normal conditions
Materials to avoid: Unknown on product.
Conditions to avoid: Unknown on product.
Hazardous polymerization: Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Eye contact: Irritating to the eyes.

11. TOXICOLOGICAL INFORMATION

Skin contact: Irritating to the skin.
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful by inhalation.
LD50 Oral Mouse (m) (mg/kg): >2000 (as of clodronate disodium)

Subchronic toxicity

No data available.

Chronic exposure (IARC)

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

Nausea, Vomiting, Diarrhoea, Rash
Potential Health Effects
Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion May be harmful if swallowed.
Bone, Kidney,

Target Organs

Additional Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: This product has no known eco-toxicological effects.
Aquatic toxicity effects: This product has no known aquatic toxicological effects.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste disposal must be in accordance with appropriate US, Federal, State and international regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted

facility or as advised by your local hazardous waste regulatory authority.

14. TRANSPORT INFORMATION

Product not regulated by DOT, IATA/ICAO, IMO/IMDG, ADR/RID, or TDG.

15. REGULATORY INFORMATION

| Components | CAS Number | SARA 313 | SARA 302 | CERCLA | CEPA |
|------------|------------|----------|----------|--------|---------|
| | 57-50-1 | | | | Listed. |

SARA (311, 312) hazard class

Immediate health: None.
Delayed health: None.
Fire: None.
Sudden Release of Pressure Hazard: None.
Reactivity: None.

State Regulations

| Components | CAS Number | NJRTK | PARTK | MARTK | RIRTK |
|---------------------------|------------|-------|---------|---------|---------|
| Sodium chloride (1%) | 7647-14-5 | | Listed. | Listed. | Listed. |
| Clodronate disodium (<1%) | 22560-50-5 | | | | |

International Inventories

| Components | TSCA | DSL | NDSL |
|---------------------------|---------|---------|------|
| Sodium chloride (1%) | Listed. | Listed. | |
| Clodronate disodium (<1%) | | | |

Clodronate disodium: not classified according to the EU regulations

WHMIS:

WHMIS trade secret: None.
WHMIS hazard class: None.

Notes:

1. SARA = Superfund Amendments and the Reauthorization Act.
2. CERCLA = Comprehensive Environmental Response, Compensations and Liability Act.
3. FIFRA = Federal Insecticide, Fungicide and Rodenticide Act.
4. TSCA = Toxic Substance Control Act.
5. WHMIS = Canadian Workplace Hazardous Materials Information System.
6. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

This data sheet contains changes from the previous version in section(s):

None.

MSDS format: North American Format - U.S. and Canada

Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall FormuMax Scientific Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if FormuMax has been advised of the possibility of such damages.

End of Safety Data Sheet