Petitions should be submitted in duplicate to:
National Organic Standards Board,
c/o Robert Pooler, Agricultural Marketing Specialist,
USDA/AMS/TM/NOP, Room 2510-So., Ag Stop 0268,
PO Box 96456,
Washington, DC 20090-6456.
Phone: (202) 720-3252.
Fax: (202) 205-7808.
E-mail: nlpetition@usda.gov.

From:
Kelly Shea
Horizon Organic Dairy
6311 Horizon Lane
Longmont, CO 80503
Phone: (303) 530-2711
Fax: (303) 527-3392
E-mail: kellys@horizonorganic.com
http://www.horizonorganic.com

Petition for Amending the National List of the USDA’s National Organic Program
To include:

HYDROXYQUINOLINE SULFATE
Category for inclusion on the National List:
205.603.b
As a synthetic, allowed ingredient, in a topical herd health item
Other Names:
Hydroxyquinoline Sulfate
8-Hydroxyquinoline Sulfate U.S.P. (United States Pharmacopoeia)

Synonyms:
8-Quinolinol, Sulfate (2:1) (Salt)
Chinosol
Cryptonol
Happy
Octofen
Oxine Sulfate
Oxyquinoline Sulfate
8-Quinolinol, Hydrogen Sulfate (2:1)
8-Quinolinol Sulfate
Sunoxol
Superol
8-Hydroxyquinoline Sulfuric Acid Salt
Quinosol

CAS Number: 134-31-6

Base Chemical Name: Hydroxyquinolinesulfate, 8-

Primary Name: 8-Hydroxyquinoline Sulfate

Chemical Formula: C\textsubscript{18}H\textsubscript{14}N\textsubscript{2}O\textsubscript{2}.H\textsubscript{2}O\textsubscript{4}S

8-hydroxyquinoline sulfate - Was used as component of cottage cheese. It has been recently banned as a coagulant in food products.

Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Composition:
--Theoretical 8-hydroxy-quinoline content: 71.42%
--Sulfuric acid: 24.15%
--Water: 4.43%
The salve is then 0.3% of the above composition of hydroxyquinoline sulfate in a base of petroleum and lanolin.

Properties:
Molecular Weight: 406.05
Yellow microcrystalline powder with a faint smell of saffron, slightly hygroscopic
Highly soluble in water, even cold
Very sparingly soluble in alcohol or other organic solvents
The 2% aqueous solution has a pH of 3.2
Applications:

**Human Medicine:**

**External use:**
-- A powerful non-toxic, non-caustic antiseptic

**Internal use:**
-- Prevention and treatment of gynecological infections, (metritis, vaginitis), restores the vaginal acid balance
-- Treatment of infections in the urinary tract
-- Treatment of diarrhea and colitis without harming the intestinal flora
-- Disinfectant used in oto-rhino-laryngology
-- Many other documented uses

**Serology:**
-- Stabilizing agent for serum and vaccines

**Veterinary Medicine:**
-- Used in the composition of many products for the treatment of poultry diseases
-- Fungicide which is harmless to intestinal flora
-- An antiseptic widely used in artificial insemination techniques
-- Disinfection of stables contaminated with brucellosis

**Cosmetic:**
-- Antiseptic used in ointments and creams used for skin treatment and in certain hair lotions
-- Anti-perspirant (deodorant)
-- Agent for stabilizing oxygenated water solutions

**Specific Use:** Ingredient in Bag Balm Antiseptic Salve

**Manufacturer’s Name, address, and telephone number**

**Bag Balm:**
Dairy Association Co., Inc.
Lyndonville, VT 05851
802-626-3610

**Hydroxyquinoline Sulfate:**
Napp Technologies
299 Market Street
Saddle Brook, NJ 07663
201-843-4664

**List of uses, rates, and applications also mode of action for handling uses:**
This synthetic is used in personal care, pharmaceutical and food processing. The product we use, Bag Balm, has 0.3% Hydroxyquinoline Sulfate in a petroleum-lanolin base. It is primarily designed to treat cows’ udders that have been cut, scraped, chapped, or sunburned. It is used for cows’ udders that have become caked or congested due to calving, or bruising, and is also put on teats to prevent freezing.
It is not to be applied on deep skin wounds or punctures; it is not meant for internal use. There are no known side effects or reactions with other medicines.

**Regulatory status with, FDA, or state authorities**
Bag Balm is registered with the FDA for use on animals only. However, hydroxyquinoline sulfate is controlled in cosmetics and toiletries, has been used for preserving syrups, and as an antioxidant synergist.

**Status among US certifiers:** This type of topical salve has been allowed by US certifiers. It contains no antibiotics, no GMOs, and no hormones.

**OMRI:**
The petroleum portion is restricted, not prohibited

**MSDS:**
See attached

**Petition justification statement:**
Hydroxyquinoline sulfate is the active ingredient in a salve primarily used to treat cow’s udders that have been cut, scraped, chapped or wind burned. The salve soothes the skin by absorbing water on the area you have applied the salve. The hydroxyquinoline sulfate works as an anti-bacterial to inhibit bacterial growth, so skin irritation will decrease. There are no known side effects or reactions with other medicines. When it is working, you notice that the udder softens and milk flows freely. You notice a softening of the skin and a decrease in symptoms such as redness and swelling.

**References:**
Bag Balm Pamphlet, Dairy Association Co., PO Box 145
Lyndonville, VT 05851

Material Safety Data Sheet, on file with the US Department of Labor, Occupational Safety and Health Administration, provided by Dairy Association Co., Inc. Lyndonville, VT 05851


Material Safety Data Sheet, on file with the US Department of Labor, Occupational Safety and Health Administration, provided by Napp Technologies, Inc. Saddle Brook, NJ

Hydroxyquinoline Sulfate Technical Documentation, provided by Napp Technologies, Inc. Saddle Brook, NJ
MATERIAL SAFETY DATA SHEET

Common name: *8-HYDROXY QUINOLINE SULPHATE*

Date: 24/02/99

1 IDENTIFICATION

- Supplier: ORGACHIM
  3 rue Octave Fauquet - BP n° 7
  76350 OISSEL
- Emergency phone number:
  Tel. 33.2.35.64.50.50
  Fax 33.2.35.64.50.30
  Tel. accident transport 33.2.35.64.50.50
  Centre antipoison Paris 33.1.40.37.04.04
  200 rue du Faubourg St Denis

2 COMPOSITION – INFORMATION ON INGREDIENT

- Substance: 8-HYDROXY QUINOLEINE SULPHATE > 98 % W/W
- No CAS: 134-31-6
- Risk: Harmful if swallowed

3 IDENTIFICATION ON THE PREPARATION HAZARDS

- Classification: Xn
- Risk: Harmful if swallowed

4 FIRST AID MEASURES

- General instructions: Remove the affected person from the danger zone to a well-ventilated place and protect from under cooling never give anything by mouth to an unconscious person and don't induce vomiting. Call antipoisonous center.
- Inhalation: Refer general instructions paragraph.
- Ingestion: If swallowed, seek medical advice immediately and show the container or label. Note to the physician: no specific antidote is known, apply symptomatic therapy.
- Contact with eyes: Rinse with plenty of clean water.
- Skin contact: Take off all contaminated clothing and thoroughly wash the affected parts of the body with soap and water.

5 FIRE-FIGHTING MEASURES

- Recommended extinguishing means: Not flammable. Protect from heat by mean of waterspray.
- Extinguishing means to avoid: Direct jet of water.
- Unusual safety devices: In case of pyrolysis risk (heat from fire of others flammable products), wear autonomous respiratory equipment. Restrain extinguishing water, neutralize or chiminate it in authorised facilities.

6 ACCIDENTAL LEAKAGE

- Personal protective equipment: Wear suitable protective clothing and gloves.
  Gloves: cotton or natural latex
**Coconut name: 8-HYDROXY QUINOLINE SULPHATE**

**Date:** 24/02/99

### 7 Handling and Storage

- **Handling**: When using do not eat, drink or smoke, wear suitable protective clothing and gloves.
- **Storage**: Keep out of reach of children, away from food, drink and animals feeding stuffs. Keep container tightly closed and store in a dry place.

### 8 Exposure Control

- **Disposals in general**: cf. n° 6 and 7
- **Individual means of protection**: cf. n° 6 and 7
- **Respiratory protection**: Protection against dust
- **Hands protection**: Wear suitable protective clothes, gloves and eye/face protection
- **Eyes protection**: cf. n° 6 and 7
- **Skin protection**: cf. n° 6 and 7

### 9 Physico Chemical Data

- **Appearance**: Yellow crystalline powder
- **Odour**: Odourless
- **Melting point**: 188-189°C
- **Solubility**: Very lightly soluble in ethanol and organic solvents
- **Density**: 0.3 - 0.5

### 10 Stability / Reactivity

- **Circumstances to avoid**: Heat and humidity
- **Materials to avoid**: Metallic container
- **Hazardous products of degradation**: cf. n° 5

### 11 Toxicological Data

- **LD50 oral/rat mg/kg**: Male 1490 - Female 1250
- **LD50 intravenous/rat mg/kg**: > 4000
- **LC50 inhalation/rat/kg**: > 4200
- **LC50 bluegill sunfish**: Not determined
- **Skin irritation (rabbit)**: No irritating
- **Eye irritation (rabbit)**: Very lightly irritating

### 12 Ecological Data

- **Bees toxicity**: Practically not toxic
- **Birds**: Practically not toxic
- **Aquatic fauna**: Practically not toxic
- **CE 50 (3 h) mg/l**: > 0.5
- **Rainbow trout LC50 (96 h) mg/l**: > 10
- **Bluegill sunfish LC50**: Not determined

### 13 Disposal

- **Product**: Eliminate in authorized facilities
- **Packing**: Reuse forbidden, empty carefully
Common name: 8-HYDROXY QUINOLINE SULPHATE

<table>
<thead>
<tr>
<th>TRANSPORT</th>
<th>RTMDR</th>
<th>IMDG</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
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<td>Not classified</td>
<td>Not classified</td>
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<tr>
<td>Number or page</td>
<td>Not classified</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sticker</td>
<td>Not classified</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>U.N number</td>
<td>Not classified</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Marine polluting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**15 REGULATION INFORMATION**

- Xn : Nocif
- Risk : R 22. Harmful if swallowed.  
          S 1/2 Keep locked up and out of reach of children.  
          S 20/21 When using do not eat, drink or smoke.

**16 DATE VALIDITY**

This sheet completes the technical sheet of use but it does not replace it. The information contained in this sheet is based on our knowledge of the product at the date of 02/99. Moreover, the attention of the users is drawn on the risk possibility taken when product is used for other uses than those for which it is intended to.
NEUTRAL 8-HYDROXY QUINOLINE SULFATE

COMMON AND FOREIGN NAMES:

Sulfate Neutre d'Oxyquinoléine
Sulfate d'Oxyquinoléine
Oxyquinoléine sulfate
8-Quinolinoi sulfate
Oxine sulfate
8-hydroxy quinoline sulfuric acid salt
Oxychinolinium sulphuricum

PHYSICAL PROPERTIES:

\[
\text{Molecular weight } 406.05
\]
- Yellow microcrystalline powder with a faint smell of saffron, slightly hygroscopic.
- Highly soluble in water, even cold.
- Very sparingly soluble in alcohol or other organic solvents.
- The 2% aqueous solution has a pH of 3.2

**COMPOSITION:**
- Theoretical 8-hydroxy-quinoline content: 71.42%
- Sulphuric acid: 24.15%
- Water: ~ 4.43%

**SPECIFICATIONS:**

<table>
<thead>
<tr>
<th>Requirements of the pharmacopoeias</th>
<th>Our standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-hydroxy-quinoline % 95% purity</td>
<td>71.4 ± 0.5</td>
</tr>
<tr>
<td>(expressed in terms of anhydrous sulphate)</td>
<td></td>
</tr>
<tr>
<td>Sulphuric acid % (Pharm. Rev. V)</td>
<td>24.15 ± 0.25</td>
</tr>
<tr>
<td>Melting point 178 - 185°C</td>
<td>188 - 189°C</td>
</tr>
<tr>
<td>(Danica 1948 II)</td>
<td>(Instantaneous melting point obtained with a Maquenne block)</td>
</tr>
</tbody>
</table>

The melting points stated in some pharmacopoeias may differ according to the techniques employed.

The relatively precise standards which we show here are the result of averages arrived at over a vast number of batches and are intended to give our customers a clear picture of the physico-chemical properties of our products, since our guarantee extends only to our deliveries conforming to current pharmacopoeias.
Particle size:

<table>
<thead>
<tr>
<th>Size Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 to 63 microns</td>
<td>33%</td>
</tr>
<tr>
<td>63 to 80 microns</td>
<td>33%</td>
</tr>
<tr>
<td>80 to 100 microns</td>
<td>15%</td>
</tr>
<tr>
<td>100 to 125 microns</td>
<td>11%</td>
</tr>
<tr>
<td>Larger than 125 microns</td>
<td>33%</td>
</tr>
</tbody>
</table>

IDENTIFICATION:

- The addition of a few drops of a dilute ferric chloride solution to an aqueous solution of neutral 8-hydroxy-quinoline sulfate produces an emerald green colouring.

- The addition of alkali to an aqueous solution of neutral 8-hydroxy-quinoline sulfate causes precipitation of 8-hydroxy-quinoline which redissolves in an excess of alkali.

ANALYSIS:

Quantitative analysis of 8-hydroxy-quinoline

The bromination method described in "Technical Documentation" on 8-hydroxy-quinoline, is used in conjunction with 1 g of sample.

The 8-hydroxy-quinoline sulfate content should be at least:

\[ 95\% \text{ of } (C_9H_7ON)_2 \cdot H_2SO_4 \]

This corresponds to a minimum 8-hydroxy-quinoline content of 71%.

Quantitative analysis of Sulfuric acid

Method 1

Sample 1.4 g. Dissolve this in 300 ml of water; add 1 ml concentrated hydrochloric acid, then bring close to boiling point. Precipitate the sulfate with 40 ml of a boiling 5% solution of BaCl_2 \cdot 2H_2O.
After learing for two hours in a hain marie at 80°C, filter slowly over an ashless filter, wash with boiling water until all the chloride ions disappear, and calcine at 900°C.

Calculation:

Let \( p \) be the weight of the sample in g. 

\[ m = \text{weight of barium sulfate obtained} \]

\[ \% B_2SO_4 = \frac{m \times 213.917}{p} \]

Method 3

Principle:

The method is based on the fact that 8-hydroxy-quinoline sulfate is the salt of a strong acid and a weak base (\( pK_1 = 5.09; pK_2 = 4.83 \)), measurable with sodium hydroxide. In an alcohol medium, accuracy is improved and precipitation of 8-hydroxy-quinoline avoided. Bromothymol blue is used as the colour indicator.

Reagents:

- Methanol or ethanol, distilled
- Bromothymol blue, 0.1% in 10% alcohol
- 0.1 N sodium hydroxide.

Method:

Dissolve an accurately weighed amount of about 0.8 g sample in 65 ml methanol in a 250 ml Erlenmeyer flask. Add 15 drops bromothymol blue and titrate with sodium hydroxide until the green tint appears.

Let \( p \) be the weight of the sample in g. 

\[ n = \text{the number of ml of sodium hydroxide solution used} \]

\[ t = \text{the titre of the sodium hydroxide solution} \]

\[ \% B_2SO_4 = \frac{98.05 \times n \times t \times 100}{2 \times 1000 \times p} = \frac{4.9025 \times n \times t}{p} \]

Sulfuric ash: Taking the usual precautions, calcine 2 g of the sample, previously moistened with a few drops of concentrated sulfuric acid, at 700°C. The residue by weight ought not to represent more than 0.3% of the weight used.

Quantitative analysis with water: The Karl-Fischer or the azototropic distillation method should be used.

APPLICATIONS:

Human medicine:

External use
- A powerful non-toxic, non-caustic antiseptic used for impregnating the gauze of certain dressings.

Internal use
- Prevention and treatment of gynaecological infections (metritis, vaginitis), restoring the vaginal acid balance.
- Treatment of infections of the urinary tract (pyelitis, cystitis, colibacterioses).
- Treatment of diarrhea and colitis without harming intestinal flora.
- Disinfectant used in oto-rhino-laryngology.
- Anthelmintic, active in all media (neutral, acid or basic).
- Compatible with sulphonamides and antibiotics
- Does not coagulate albumins.

Serology
- Stabilising agent for sera and vaccines (inhibits microbial flora).

Veterinary medicine
- Used in the composition of many products for the treatment of poultry diseases, particularly coccidiosis in birds.
- Fungicide which is harmless to intestinal flora.
- An antiseptic widely used in artificial insemination techniques.
- Available as vaginal rods or pellets.
- Disinfection of stables contaminated with brucellosis, by spraying a 1:1000 (approx.) solution over the stable litter and walls.

**Cosmetic**

- Antiseptic used in ointments and creams used for skin treatment and in certain hair lotions.
- Agent for stabilising oxygenated water solutions, at the rate of 0.1 to 0.5%.
- Anti-perspirant (deodorant).

**Industry**

- Preserving agent for mechanical paper pulps:
  Spraying of a dilute solution of 70 to 120 g 8-hydroxy-quinoline sulfate per metric ton of pulp in 50% humidity ensures excellent protection against mildew attack.
- Protection of packaging cartons by spraying at the rate of 0.5 to 1 g per sq.m.
- Subject to chemical compatibility, may be incorporated in paints, so imparting permanent fungistatic properties to them.

**MARKETED AS:**

Fine crystalline powder.

**STORAGE:**

In the original packaging.
1) For small quantities of 1 to 9 kg
   2 types of packaging, 1 and 5 kg, in the form of a cardboard box with iron hoops, lined on the inside with a plastic bag.

2) For quantities of 10 kg and more
   2 types of packaging, 10 and 50 kg, in the form of a cardboard drum, with iron hoop, lined on the inside with a plastic bag.

All our forms of packaging are approved for transport by land, air and sea.

The sole object of the details given in this pamphlet is to provide our customers with useful information of the product and its possible application, but under no circumstances may they be regarded as binding.

Our Technical Department is at your disposal for any further information you may require.
Oiesel, April 6th, 1998

Subject: 3-Hydroxyquinoline sulfate

We certify that 3-hydroxyquinoline sulfate stored under normal conditions of temperature and humidity in its original container retains its original chemical characteristics during 5 years.

M. MARY
Quality Assurance Manager
## SPECIFICATIONS

**SULFATE D'HYDROXY-8 QUINOLEINE**  
(8-Hydroxyquinoline sulphate)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow powder</td>
</tr>
<tr>
<td>8-Hydroxyquinoline</td>
<td>50.6 - 52.6 %</td>
</tr>
<tr>
<td>H₂SO₄</td>
<td>29.5 - 32.5 %</td>
</tr>
<tr>
<td>pH (2% in water)</td>
<td># 3.2</td>
</tr>
<tr>
<td>H₂O</td>
<td># 4.4 %</td>
</tr>
<tr>
<td>Solubility (20% in water)</td>
<td>Good</td>
</tr>
<tr>
<td>Assay</td>
<td>&gt; 98.5%</td>
</tr>
<tr>
<td>Shelf life</td>
<td>5 years after manufacturing date</td>
</tr>
</tbody>
</table>

Analytical Department Manager
July 23th, 1997

To whom it may concern:

We Orgachim at address : 3, rue Octave Fauquet - 76350 Oissel (France) hereby declare that, during the process of:

8-hydroxy quinoline sulfate (CAS 134-31-6)

None of the solvents listed below are used or produced as by products:

- Benzene
- Chloroform
- 1,4 - Dioxan
- Methylene Chloride
- Trichlorothylene

ORGACHIM
3, rue Octave-Fauquet Jean FREYRE
B.P. 7
76350 OISSEL
Tél. : 35 64 50 50

Plant Manager
Quality Statement

To Whom It May Concern:

RE: SAFETY OF MEDICINAL PRODUCTS FOR HUMAN AND VETERINARY USE REGARDING THE RISK OF TRANSMITTING SPONGIFORM ENCEPHALOPATHIES (SE) AND SCRAPIE.

PRODUCT: SULFATE NEUTRE
8-HYDROXYQUINOLINE SULFATE

We, the undersigned, have thoroughly examined the source of all the active and inactive ingredients, intermediates, solvents, etc. in the above-mentioned product and hereby declare that the finished product has not been derived from any constituent derived from cattle, sheep or goats in anyway whatsoever.

We hereby further undertake to keep our customers updated with all information regarding the safety of this product regarding the risk of transmitting spongiform encephalopathies (SE) and scrapie.

ORGACHIM
3, rue Octave-Fauquet
B.P. 7
76350 OISSEL
Tél. : 35 64 50 50

Jean FREYRE
Plant Manager
Oissel, July 18, 1997
To whom it may concern:

- We ORGACHIM at address: 3, rue Octave Fauquet - 76350 OISSEL (FRANCE) hereby declare that the site will be ISO 9002 audited for final certification before end of 1997.

- We are manufacturing bulk pharmaceutical chemicals following the EU cGMP and we have already been audited and approved as supplier by european pharmaceutical companies.

As of today we have not filed any DMF with FDA, and thus we have not been audited by them.

M. MARY

Assurance Quality Manager
N° CUAL/1998/9019

AFAO certifie que le système qualité adopté par,
AFAO certifies that the quality system developed by :

ORGACHIM

pour les activités suivantes,
for the following activities :

FABRICATION ET VENTE DE PRODUITS DE SYNTHESE DE CHIMIE FINE.
FABRICATION A FACON DE PRODUITS DE SYNTHESE DE CHIMIE FINE ET DE
FORMULATIONS AGROCHIMIQUES.

MANUFACTURING AND SALES OF FINE CHEMICALS. TOLL AND CUSTOM
MANUFACTURING OF FINE CHEMICALS AND AGROCHEMICAL
FORMULATIONS.

exercées sur le(s) site(s) suivant(s),
carried out in the following location(s) :
3, rue Octave Fauquet B.P. 7 F-78350 OISSEL

a été évalué et jugé conforme aux exigences de la norme,
has been assessed and found to conform to the requirements of the standard :

ISO 9002 (1994)

Le présent certificat, édité dans les conditions fixées par AFAQ, est valable à dater du,
This certificate, delivered under AFAQ rules, is valid to :

1998-02-02

2001-02-01

Le Président du Comité de Certification  LE Directeur Général d'AFAQ  LE Représentant de l'Entreprise
The President of the Certification Committee The Managing Director of AFAQ On Behalf of the Firm

A. LADUREE  O. PEYRAT  PH. MANNSCHOTT
Hydroxylaminoacetanilide

N-Hydroxylaminoacetanilide, N-Methylhydroxylaminoacetanilide, N-Hydroxylaminoacetanilide-3-carboxamide.

Hydroxylaminoacetanilide

Hydroxylaminoacetanilide is an inhibitor of the aromatic (oestrogen synthesates) system and is under investigation for the endocrine therapy of breast cancer.


Hydroxyethylcellulose

Hydroxyethylcellulose is a colloidal and has been used in the treatment of various disorders of the gall-bladder.

Proprietary Names and Manufacturers

Bionol (Bionol, Gen. Brion, Belg. Bionol.); Bladelan (Cilag, Cilag, Swiss); Bladitame (Cilag-Clemco, Belg. Biale (Labeoer-Pharma, Swiss).

Hydroxyquinothic acid

Hydroxyquinoline Sulphate

Chinomomum Quinomomum Sulphate, Quinoline Sulphate.
Oxyquinoline: Oxyquinoline Sulphate (USAN); Sulphate d’Oxyquinolamine, Quinin-8 sol sulphate. 8-Quinolinol bisulphate.

CAS — 144-24-5 (hydroxyquinoline); 134-31-6 (salicylate).

Pharmacopeia: In Belz and Ros (Br., Nord., and Swiss), Quinaldine and Quinolinium compounds. Also in U.S.N.F.

A yellow powder, M.P. about 185°C.

Very soluble in water; slightly soluble in alcohol: freely soluble in methyl alcohol practically insoluble in acetone and ether. Store in well-closed containers.

Hydroxyquinoline sulphate has properties similar to thiole of potassium hydroxyquinoline sulphate (see p.1606) and has been used similarly in the topical treatment of skin infections.

It has been used for preserving syrops and has also been used as an antiseptic synergist since it forms complexes with some heavy metals and thus inhibits catalysis of oxidation by these.

The use of hydroxyquinoline sulphate in cosmetics and toiletries is controlled.

Proprietary Names and Manufacturers of Hydroxyquinoline Sulphate or another Salt of Hydroquinoline


The following names have been used for multi-ingredient preparations containing hydroxyquinoline sulphate or another salt of hydroquinoline — Acet-Jel (Cilag, Austral, Fr., Gen. Cilag, Canatl., Triva, Donche, Cilag, USA); Bever (Bever, Canatl., Cilag, Gen. Cilag, USA); Bevers (Bever, Canatl., Cilag, USA); Bromo-Quinoline (Bever, Canatl., Triva, Donche, Cilag, USA). The name Quinoderm and other names have been used in the same manner as the oxygene when applied locally, for practical purposes, the following may be of practical use:

The hydroxyquinoline content of hydroxyquinoline sulphate or another salt of hydroquinoline is not measured by the oxygene when applied locally, for practical purposes, the following may be of practical use:

The hydroxyquinoline content of hydroxyquinoline sulphate or another salt of hydroquinoline is not measured by the oxygene when applied locally, for practical purposes, the following may be of practical use:

The hydroxyquinoline content of hydroxyquinoline sulphate or another salt of hydroquinoline is not measured by the oxygene when applied locally, for practical purposes, the following may be of practical use:

The hydroxyquinoline content of hydroxyquinoline sulphate or another salt of hydroquinoline is not measured by the oxygene when applied locally, for practical purposes, the following may be of practical use:
MATERIAL SAFETY DATA SHEET

Dairy Association

SECTION I - PHYSICAL DATA

MANUFACTURER'S NAME: DAILY ASSOCIATION COMPANY, INC.
LODOWILLE, VERMONT 05851
EMERGENCY TELEPHONE NUMBER: 1-(802) 826-2610

HAZARDOUS SUBSTANCES:

TRADE NAME AND SYNONYM: Bag Balm Antiseptic Salve
CHEMICAL NAME: 0.76 Hydroxyquinoline Sulfate in a
Nonoxygen-Lanolin Base
FORMULA: Tego Technology

SECTION II - HAZARDOUS INGREDIENTS

Paints, Preservatives, and Solvents

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Pts.</th>
<th>TLV (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigments</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Catalyst</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Vehicle</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Solvents</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Additives</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Others</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Alloys and Metallic Coatings

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
<th>TLV (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Metal</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Alloys</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Metallic Coatings</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Mixture Metal Plus Coating or Core Flux</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Others</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Other Hazardous Mixtures of Other Liquids, Solids or Gases

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
<th>TLV (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SECTION III - PHYSICAL DATA

Flash Point (deg F): N/A
Vapor Pressure (mm Hg): N/A
Vapor Density (Air = 1): N/A
Solubility in Water: N/A
Specific Gravity (H2O = 1): 0.87
Percent Vapors by Volume (%): 2.0 - 3.0
Evaporating Rate (in Hrs): N/A
Appearance and Odor: Semi-solid cream, lanolin odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): Above 200 deg F (Tag Open Cup)
FLAMMABILITY LIMITS: N/A
LINE:

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value: Skin Irritation (Rabbit): None
Effects of Overexposure: N/A
Emergency and First Aid Procedures: N/A

SECTION VI - REACTIVITY DATA

Stability: Stable.

CONDITIONS TO AVOID:
INCOMPATIBILITY (Materials to Avoid): N/A
HARMFUL DECOMPOSITION PRODUCTS: None
Hazardous Polymerization: Will not occur.

CONDITIONS TO AVOID:

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURES TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: N/A
WASTED DISPOSAL METHOD: Municipal Sanitary Landfill

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type): Not required
VENTILATION:
LOCAL EXHAUST: Not required
MECHANICAL (General): Not required
OTHER:

SECTION IX - GENERAL PRECAUTIONARY STATEMENTS

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES: Although reasonable care has been taken in the preparation of this document, we assume no responsibility for the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purpose(s). Each individual should make a determination as to the suitability of the information for their particular purpose(s). A request has been made to the manufacturer to approve the contents of this material safety data sheet. Upon receipt a new MSDS will be made available.

CENAS Code: 192:0010

NAC Approved Date: \_\_\_\_\_\_

CA5154-241 V2 5308004
Material Safety Data Sheet

Material Safety Data Sheet

August 17, 2000

Emergency Phone Number
(802) 636-3630

Section I - Identifying Information

Manufacturer's Name
Dairy Association Company, Inc.

Chemical Name
Bag Rain Aquaphor Salt

Trade Name

Chemical Formula
0.3% Hyposulfite Sodium in a Perchloro-Larotic Base

Section II - Hazardous Ingredients

Name, Preservatives, and Stabilizers | % | TLV (Upper) | Allergies and Metalloy Cautions | % | TLV (Upper)
--- | --- | --- | --- | --- | ---
Pigments | None | Always | None | None |
Colorants | None | Always | None | None |
Vehicles | Perchloro-Larotic Base | 10% | Metallic Coatings | None |
Solvents | None | Filter Meal | Dust Coating or Core Flax | None |
Additives | None | Others | None |
Others | None |

Regardless Mixtures of Other Liquids, Solids or Gases

Section III - Physical Data

Boiling Point (°F) | NA |
Vapor Pressure (mm Hg.) | NA |
Vapor Density (Air = 1) | NA |
Solubility in Water | None |
Appearance and Odor | Semi-solid, cloudy, lemon odor |

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) | NA |
Flash Point (Cup) | NA |
Flammable Limit | NA |
Expanding Media | NA |
Special Fire Fighting Procedures | NA |
Smoke and Fire Extinguishing Equipment | NA |

Page 1 (Continued on Page 2)
### Section V - Health Hazard Data

<table>
<thead>
<tr>
<th>Threshold Limit Value</th>
<th>Skin Irritation (Rabbits) None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of Overexposure</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Emergency First Aid Procedures

| NA |

### Section VI - Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>Enamable</th>
<th>Flammable</th>
<th>Conditions to Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Incompatibility (Materials to Avoid)

| Strong Oxidizing Agents | None |

### Hazardous Decomposition Products

| None |

### Section VII - Self-Extinguishing Properties

<table>
<thead>
<tr>
<th>May Occur</th>
<th>Conditions to Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will Not Occur</td>
<td>X</td>
</tr>
</tbody>
</table>

### Section VIII - Self-Extinguishing Properties

| Not Required |

### Section IX - Special Protection Information

<table>
<thead>
<tr>
<th>Regency Protection (Specify Type)</th>
<th>Not Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilation</td>
<td>Not Required</td>
</tr>
<tr>
<td>Mechanical (General)</td>
<td>Not Required</td>
</tr>
<tr>
<td>Special</td>
<td>Other</td>
</tr>
</tbody>
</table>

### Protective Gloves

| Not Required | Eye Protection | Not Required |

### Other Protective Equipment

| Not Required |

### Section X - Special Precautions

| Precautions to be Taken in Handling and Storing | None |

### Other Precautions

| None |