

SECTION 1 Identification

1.1. GHS Product identifier

Product form : Mixture
Trade name : Orange Serum Agar
Type of product : Food Safety -- [Food Safety]
Product code : NCM0054

1.2. Other means of identification

Part Number(s) : NCM0054|400000771|700003113|NCM0054A|700003114|NCM0054B|700003115|NCM0054C|700004437|NCM0054D|700003116|NCM0054E

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Laboratory chemicals, Scientific research and development
Recommended use : Laboratory chemicals, Scientific research and development

1.4. Supplier's details

Manufacturer

Neogen Corporation
620 Leshar Place
Lansing, Michigan 48912
United States of America
T 800.234.5333
sds@neogen.com - <https://www.neogen.com/>

1.5. Emergency phone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Serious eye damage/eye irritation, Category 2 H319 Causes serious eye irritation.
Full text of H statements : see section 16

2.2. GHS label elements, including precautionary statements

GHS CA labeling

Hazard pictograms (GHS CA) :



Signal word (GHS CA) : Warning

Hazard statements (GHS CA) : H319 - Causes serious eye irritation

Precautionary statements (GHS CA) : P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

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contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice or attention.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

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| Name | Chemical name / Synonyms | Product identifier | % | Classification (GHS CA) |
|------|-----------------------------|--------------------|---|-------------------------|
|------|-----------------------------|--------------------|---|-------------------------|

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| | | | | |
|---------------------|--|------------------|-----------|--|
| L-(+)-tartaric acid | 2,3-Dihydroxybutanedioic acid (+)-tartaric acid / (2R,3R)-(+)-tartaric acid / (2R,3R)-tartaric acid / (R,R)(+)-tartaric acid / (R,R)-tartaric acid / [R-(R*,R*)]-2,3-dihydroxybutanedioic acid / [theta-(theta, theta)]-butanedioic acid, 2,3-dihydroxy- / [theta-(theta, theta)]-butanedioic acid, 2,3-dihydroxy- / 1,2-dihydroxyethane-1,2-dicarboxylic acid / 2,3-dihydrosuccinic acid, L- / 2,3-dihydroxybutanedioic acid, [R-(R*,R*)]- / 2,3-dihydroxybutanedioic acid, L- / 2,3-dihydroxysuccinic acid, dextro- / 2,3-dihydroxysuccinic acid, L- / 3-hydroxymalic acid, L- / butanedioic acid, 2,3-dihydroxy-[theta-(theta, theta)]- / butanedioic acid, 2,3-dihydroxy- [R-(R*,R*)]- / butanedioic acid, 2,3-dihydroxy-, L- / butanedioic acid, 2,3-dihydroxy-[theta-(theta, theta)]- / d-alpha, beta-dihydroxysuccinic acid / dextro-(+)-tartaric acid / dextro-2,3-dihydroxysuccinic acid / dextro-alpha,beta-dihydroxysuccinic | CAS-No.: 87-69-4 | ≥ 1 – < 5 | Eye Dam. 1, H318 Aquatic Acute 3, H402 Aquatic Chronic 3, H412 |
|---------------------|--|------------------|-----------|--|

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| Name | Chemical name / Synonyms | Product identifier | % | Classification (GHS CA) |
|------|---|--------------------|---|-------------------------|
| | acid / dextro-tartaric acid / dextro- α , β -dihydroxysuccinic acid / dihydroxysuccinic acid, L-(+)- / d-tartaric acid / L-(+)-dihydroxysuccinic acid / L-(R,R)-(+)-tartaric acid / L-2,3-dihydroxysuccinic acid / L-2,3-dihydroxybutanedioic acid / L-2,3-dihydroxysuccinic acid / L-3-hydroxymalic acid / L-malic acid, 3-hydroxy- / L-succinic acid, 2,3-dihydroxy- / L-tartaric acid / L-thearic acid / L-threaric acid / natural tartaric acid / ordinary tartaric acid / tartaric acid NF / tartaric acid, (+)- / tartaric acid, (2R,3R)- / tartaric acid, (2R,3R)-(+)- / tartaric acid, (R,R)- / tartaric acid, (R,R)-(+)- / tartaric acid, dextro- / tartaric acid, dextro(+)- / tartaric acid, dextrorotatory / tartaric acid, L- / tartaric acid, L-(+)- / tartaric acid, natural / tartaric acid, ordinary / thearic acid, L- / threaric acid, L- / α , β -dihydroxysuccinic acid, dextro- | | | |

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Full text of hazard classes and H-statements : see section 16

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

| | |
|---|--|
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | : Wash skin with plenty of water. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Call a poison center/doctor/physician if you feel unwell. |
| First-aid measures general | : If you feel unwell, seek medical advice. |
| Personal protection for first-aid responders. | : First aid workers will be equipped with suitable personal protective equipment. |

4.2. Most important symptoms/effects, acute and delayed

| | |
|-------------------------------------|---|
| Symptoms/effects after inhalation | : None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. |
| Symptoms/effects after skin contact | : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing. |
| Symptoms/effects after eye contact | : Eye irritation. |
| Symptoms/effects after ingestion | : None under normal conditions. |

4.3. Indication of immediate medical attention and special treatment needed, if necessary

| | |
|-----------------------------------|--------------------------|
| Other medical advice or treatment | : Treat symptomatically. |
|-----------------------------------|--------------------------|

SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

| | |
|--------------------------------|------------------------------------|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Specific hazards arising from the chemical

| | |
|--|--------------------------------|
| Fire hazard | : No fire hazard. |
| Explosion hazard | : No direct explosion hazard. |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |

5.3. Special protective actions for fire-fighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|---------------------------|---|
| General measures | : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. |
| Environmental precautions | : Avoid release to the environment. |

6.2. Methods and materials for containment and cleaning up

| | |
|-------------------------|---|
| For containment | : Using a clean shovel, put the material in a dry container and cover without compressing it. |
| Methods for cleaning up | : Mechanically recover the product. |

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Other information : Dispose of materials or solid residues at an authorized site.
For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Keep cool. Protect from sunlight.
Storage temperature : 2 – 30 °C
Packaging materials : Store always product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



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SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Solid |
| Appearance | : Powder. |
| Color | : Beige |
| Odor | : Characteristic |
| Odor threshold | : No data available |
| pH | : 5.3 – 5.7 |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Relative evaporation rate (ether=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : Not applicable |
| Boiling point | : No data available |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Non flammable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20°C | : No data available |
| Relative density | : No data available |
| Solubility | : Soluble in water. |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Viscosity, kinematic | : Not applicable |
| Explosion limits | : Not applicable |
| Particle characteristics | : No data available |

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | : The product is non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | : Stable under normal conditions. |
| Possibility of hazardous reactions | : No dangerous reactions known under normal conditions of use. |
| Conditions to avoid | : None under recommended storage and handling conditions (see section 7). |
| Incompatible materials | : No additional information available |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Hardening time: | : No additional information available |

SECTION 11 Toxicological information

11.1. Likely routes of exposure

| | |
|-----------------------------|------------------|
| Acute toxicity (oral) | : Not classified |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

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| | |
|---------------------------------|--|
| Unknown acute toxicity (GHS CA) | 10.79% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 51.46% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 51.46% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist)) |
|---------------------------------|--|

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| L-(+)-tartaric acid (87-69-4) | |
|-------------------------------|---|
| LD50 oral rat | 2000 – 5000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, 14 day(s), Rat, Female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | > 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s)) |
| ATE CA (oral) | 3500 mg/kg body weight |

Skin corrosion/irritation : Not classified.
pH: 5.3 – 5.7

| L-(+)-tartaric acid (87-69-4) | |
|-------------------------------|---------------------|
| pH | 1 – 2 (15 %, 25 °C) |

Serious eye damage/irritation : Causes serious eye irritation.
pH: 5.3 – 5.7

| L-(+)-tartaric acid (87-69-4) | |
|-------------------------------|---------------------|
| pH | 1 – 2 (15 %, 25 °C) |

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

| L-(+)-tartaric acid (87-69-4) | |
|---|---|
| NOAEL (subchronic,oral,animal/male,90 days) | ≈ 2460 mg/kg body weight Animal: , Animal sex: male |
| NOAEL (subchronic,oral,animal/female,90 days) | ≈ 3200 mg/kg body weight Animal: , Animal sex: female |

Aspiration hazard : Not classified

| Orange Serum Agar | |
|----------------------|----------------|
| Viscosity, kinematic | Not applicable |

| L-(+)-tartaric acid (87-69-4) | |
|-------------------------------|------------------------|
| Viscosity, kinematic | Not applicable (solid) |

Symptoms/effects after inhalation : None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

SECTION 12 Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified.
Hazardous to the aquatic environment, long-term (chronic) : Not classified.

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| L-(+)-tartaric acid (87-69-4) | |
|-------------------------------|--|
| LC50 - Fish [1] | > 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value, Nominal concentration) |
| LC50 - Fish [2] | > 100 mg/l Test organisms (species): |
| EC50 - Crustacea [1] | 93.313 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect) |
| EC50 72h - Algae [1] | 51.404 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cell numbers) |
| EC50 96h - Algae [1] | 337000 mg/l Source: Ecological Structure Activity Relationships |
| NOEC chronic fish | 43.141 g/l Test organisms (species): Duration: '30 d' |

12.2. Persistence and degradability

| Orange Serum Agar | |
|-------------------------------|------------------------|
| Persistence and degradability | Not rapidly degradable |

| L-(+)-tartaric acid (87-69-4) | |
|---------------------------------|------------------------------------|
| Persistence and degradability | Readily biodegradable in water. |
| Biochemical oxygen demand (BOD) | 0.35 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 0.42 g O ₂ /g substance |
| ThOD | 0.53 g O ₂ /g substance |

12.3. Bioaccumulative potential

| L-(+)-tartaric acid (87-69-4) | |
|---|--|
| Bioaccumulative potential | Not bioaccumulative. |
| Partition coefficient n-octanol/water (Log Pow) | -1.91 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C) |

12.4. Mobility in soil

| L-(+)-tartaric acid (87-69-4) | |
|--|--|
| Surface tension | No data available in the literature |
| Ecology - soil | Highly mobile in soil. |
| Organic Carbon Normalized Adsorption Coefficient (Log Koc) | 0 (log Koc, SRC PCKOCWIN v2.0, Calculated value) |

12.5. Other adverse effects

| | |
|------------------------------|------------------|
| Ozone | : Not classified |
| Fluorinated greenhouse gases | : No |

SECTION 13 Disposal considerations

| | |
|---------------------------------|---|
| Regional waste regulation | : Disposal must be done according to official regulations. |
| Waste treatment methods | : Dispose of contents/container in accordance with licensed collector's sorting instructions. |
| Sewage disposal recommendations | : Disposal must be done according to official regulations. |

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Product/Packaging disposal recommendations : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14 Transport information

In accordance with TDG / DOT / IMDG / IATA

| TDG | DOT | IMDG | IATA |
|---|---------------|---------------|---------------|
| 14.1. UN Number | | | |
| Not regulated for transport | | | |
| 14.2. UN Proper Shipping Name | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| 14.3. Transport hazard class(es) | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| 14.4. Packing group, if applicable | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| 14.5. Environmental hazards | | | |
| Not regulated | Not regulated | Not regulated | Not regulated |
| No supplementary information available | | | |

14.6. Special precautions for user

TDG

Not regulated

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78⁹ and the IBC Code¹⁰

Not applicable

SECTION 15 Regulatory information

L-(+)-tartaric acid (87-69-4)

Listed on the Canadian DSL (Domestic Substances List)

Canada DSL & NDSL Flags

Significant New Activity (SNAc) provisions of the Act apply

L-(+)-tartaric acid (87-69-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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SECTION 16 Other Information

Issue date : 05-14-2025
Revision date : 10-08-2025
Supersedes : 05-14-2025

| Full text of hazard classes and H-statements: | |
|---|---|
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H402 | Harmful to aquatic life |
| H412 | Harmful to aquatic life with long lasting effects |

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.