

### SECTION 1 Identification

#### 1.1. GHS Product identifier

Product form : Mixture  
Trade name : Fraser Broth  
Type of product : Food Safety -- [Food Safety]  
Product code : NCM0050

#### 1.2. Other means of identification

Part Number(s) : NCM0050|400000767|700003097|700003098|700003099

#### 1.3. Recommended use of the chemical and restrictions on use

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

#### 1.4. Supplier's details

Neogen Corporation  
620 Leshler Place  
Lansing, Michigan 48912  
United States of America  
T 800.234.5333  
[sds@neogen.com](mailto: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)

Reproductive toxicity, Category 1A	H360	May damage fertility or the unborn child
Reproductive toxicity, Additional category for effects on or via lactation	H362	May cause harm to breast-fed children
Specific target organ toxicity, Single exposure, Category 2	H371	May cause damage to organs.
Specific target organ toxicity, Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

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) : Danger

Hazard statements (GHS CA) : H360 - May damage fertility or the unborn child  
H362 - May cause harm to breast-fed children  
H371 - May cause damage to organs.  
H373 - May cause damage to organs through prolonged or repeated exposure.

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Precautionary statements (GHS CA) : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P260 - Do not breathe dust, fume, gas, mist, vapors, spray.  
P263 - Avoid contact during pregnancy and while nursing.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.  
P308+P311 - IF exposed or concerned: Call a POISON CENTER or a doctor.  
P308+P313 - IF exposed or concerned: Get medical advice or attention.  
P314 - Get medical advice or attention if you feel unwell.  
P405 - Store locked up.  
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

### 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

### 3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Lithium chloride	Lithium chloride hydrochloric acid lithium salt / hydrochloric acid, dilithium salt / lithium chloride / lithium chloride (LiCl) / lithium chloride, anhydrous	CAS-No.: 7447-41-8	5.455	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319

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Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Esculin	(-)-esculin / 2H-1-benzopyran-2-one, 6-(beta-D-glucopyranosyloxy)-7-hydroxy- / 6-(beta-D-glucopyranosyloxy)-7-hydroxy-2H-1-benzopyran-2-one / 6-(beta-D-glucopyranosyloxy)-7-hydroxycoumarin / 6,7-dihydroxycoumarin 6-glucoside / 6,7-dihydroxycoumarin-6beta-D-glucopyranoside / aesculin / bicolorin / crataegin / enallachrome / escosyl / esculetin 6-beta-D-glucoside / esculetin 6-O-glucoside / esculine / esculoside / polychrom / polychrome / vitamin C2	CAS-No.: 531-75-9	1.818	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

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 eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
First-aid measures general	: IF exposed or concerned: Get medical advice/attention.

#### 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	: None under normal conditions. Dust from this product may cause eye irritation.

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Symptoms/effects after ingestion : None under normal conditions.  
Chronic symptoms : May damage fertility or the unborn child.

### 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. Notify authorities if product enters sewers or public waters.

### 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. Notify authorities if product enters sewers or public waters.  
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. Obtain special instructions before use. Avoid contact during pregnancy/while nursing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.  
Hygiene measures : Separate working clothes from town clothes. Launder separately. 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.

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Storage conditions	: Store locked up.
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 inadequate ventilation] wear respiratory protection.

##### Personal protective equipment symbol(s):



### 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	: 7 – 7.4
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

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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

Fraser Broth	
Unknown acute toxicity (GHS CA)	21.73% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 21.73% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 27.18% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
Lithium chloride (7447-41-8)	
LD50 oral rat	526 mg/kg (Rat, Male, Experimental value, Oral)
LD50 oral	526 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal rabbit	1488 mg/kg Source: Corporate Solution From Thomson Micromedex
LC50 Inhalation - Rat	> 5.57 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
ATE CA (oral)	526 mg/kg body weight
ATE CA (Dermal)	1488 mg/kg body weight

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according to the Hazardous Products Regulation (WHMIS 2015)

Esculin (531-75-9)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
Skin corrosion/irritation	: Not classified. pH: 7 – 7.4
Lithium chloride (7447-41-8)	
pH	7 (57 %, 20 °C, OECD 105: Water Solubility)
Serious eye damage/irritation	: Not classified pH: 7 – 7.4
Lithium chloride (7447-41-8)	
pH	7 (57 %, 20 °C, OECD 105: Water Solubility)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child. May cause harm to breast-fed children.
STOT-single exposure	: May cause damage to organs.
Esculin (531-75-9)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Lithium chloride (7447-41-8)	
NOAEL (oral,rat,90 days)	84.8 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 452 (Chronic Toxicity Studies)
Aspiration hazard	: Not classified
Fraser Broth	
Viscosity, kinematic	Not applicable
Lithium chloride (7447-41-8)	
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	: None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.
Chronic symptoms	: May damage fertility or the unborn child.

## 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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<b>Lithium chloride (7447-41-8)</b>	
LC50 - Fish [1]	158 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	249 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 400 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 72h - Algae [1]	> 400 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	112 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC chronic fish	17.35 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '34 d'
NOEC (chronic)	1.7 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic algae	25 mg/l
LOEC (chronic)	2.53 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
<b>Esculin (531-75-9)</b>	
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

### 12.2. Persistence and degradability

<b>Fraser Broth</b>	
Persistence and degradability	Not rapidly degradable
<b>Lithium chloride (7447-41-8)</b>	
Persistence and degradability	Biodegradability in soil: not applicable, Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>Esculin (531-75-9)</b>	
Persistence and degradability	Readily biodegradable in water.

### 12.3. Bioaccumulative potential

<b>Lithium chloride (7447-41-8)</b>	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-0.46 (Estimated value, KOWWIN, 20 °C)
<b>Esculin (531-75-9)</b>	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-1.71

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### 12.4. Mobility in soil

#### Lithium chloride (7447-41-8)

Surface tension	No data available (test not performed)
Ecology - soil	Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.

### 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.
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
<b>14.1. UN Number</b>			
Not regulated for transport			
<b>14.2. UN Proper Shipping Name</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group, if applicable</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>			
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

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### 14.7. Transport in bulk according to Annex II of MARPOL 73/78<sup>9</sup> and the IBC Code<sup>10</sup>

Not applicable

## SECTION 15 Regulatory information

### Lithium chloride (7447-41-8)

#### Listed on the Canadian DSL (Domestic Substances List)

Canada DSL & NDSL Flags	Significant New Activity (SNAc) provisions of the Act apply
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### Esculin (531-75-9)

#### Listed on the Canadian DSL (Domestic Substances List)

Canada DSL & NDSL Flags	Significant New Activity (SNAc) provisions of the Act apply
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### Lithium chloride (7447-41-8)

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

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### Esculin (531-75-9)

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

## SECTION 16 Other Information

Issue date : 05-13-2025

### Full text of hazard classes and H-statements:

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H362	May cause harm to breast-fed children
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

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.