

### SECTION 1 Identification

#### 1.1. GHS Product identifier

Product form : Mixture  
Product name : LESS Medium  
Type of product : Food Safety -- [Food Safety]  
Product code : 9790

#### 1.2. Other means of identification

Part Number(s) : 9790|9792E|9798|400000055|400000056|400000648|700002820|700002821|700002822

#### 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)

Serious eye damage/eye irritation, Category 2	H319	Causes serious eye irritation.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.

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) : H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation

Precautionary statements (GHS CA) : P261 - Avoid breathing dust, fume, gas, mist, vapors, spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P272 - Contaminated work clothing should not be allowed out of the workplace.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.

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P302+P352 - IF ON SKIN: Wash with plenty of water.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.  
P337+P313 - If eye irritation persists: Get medical advice or attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
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)
Sodium pyruvate	2-Oxopropanoic acid sodium salt ; Sodium pyruvate 2-oxo-propanoic acid, sodium salt / acetylformic acid, sodium salt / propanoic acid, 2-oxo-, sodium salt / pyruvic acid sodium salt / sodium pyruvate	CAS-No.: 113-24-6	12.724	Eye Irrit. 2, H319 Skin Sens. 1B, H317
3-Morpholinopropanesulfonic acid	3-(N-morpholino)propanesulfonic acid / 3-(N-morpholino)propanesulphonic acid / 3-morpholinopropanesulfonic acid / 4-morpholinepropanesulfonic acid / MOPS / MOPS, DNase, RNase, protease free / morpholinepropanesulfonic acid / N-(3-sulfopropyl)morpholine / WAS 15	CAS-No.: 1132-61-2	10.816	Eye Irrit. 2A, H319 Skin Sens. 1, H317 STOT SE 3, H335

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Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Magnesium sulfate anhydrous	Magnesium sulfate (1:1) E518 / epsom salts / magnesium sulfate / magnesium sulphate / magnesium sulphate (1:1) / magnesium sulphate, anhydrous / magnesium sulphate, anhydrous, crystalline / magnesium sulphate, dried, pure / magnesiumsulphate, dried / PST13510 / sal angalis / sal de sedlitz / sulfuric acid magnesium salt (1:1) / sulphuric acid magnesium salt	CAS-No.: 7487-88-9	6.348	Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)

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. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
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.

### 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	: May cause an allergic skin reaction.
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.
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### 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.  
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. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.  
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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 : 15 – 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

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### 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):



## 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
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

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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) : No data available  
Acute toxicity (dermal) : No data available  
Acute toxicity (inhalation) : No data available

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Unknown acute toxicity (GHS CA)	41.59% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 63.86% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 63.86% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
Sodium pyruvate (113-24-6)	
LD50 oral	3533 mg/kg body weight (Mouse, Experimental value, Oral)
LD50 dermal rat	> 3000 mg/kg body weight (Rat, Male, Experimental value, Intraperitoneal)
ATE CA (oral)	3533 mg/kg body weight
3-Morpholinopropanesulfonic acid (1132-61-2)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Male / female, Experimental value, Oral)
Magnesium sulfate anhydrous (7487-88-9)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Dermal, 14 day(s))
Skin corrosion/irritation	: Not classified. pH: 7 – 7.4
Sodium pyruvate (113-24-6)	
pH	7 (10 %)
3-Morpholinopropanesulfonic acid (1132-61-2)	
pH	2.5 – 4 (21 %)

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<b>Magnesium sulfate anhydrous (7487-88-9)</b>	
pH	7 (5 %)
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7 – 7.4
<b>Sodium pyruvate (113-24-6)</b>	
pH	7 (10 %)
<b>3-Morpholinopropanesulfonic acid (1132-61-2)</b>	
pH	2.5 – 4 (21 %)
<b>Magnesium sulfate anhydrous (7487-88-9)</b>	
pH	7 (5 %)
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: No data available
Carcinogenicity	: No data available
Reproductive toxicity	: No data available
STOT-single exposure	: No data available
<b>3-Morpholinopropanesulfonic acid (1132-61-2)</b>	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: No data available
<b>3-Morpholinopropanesulfonic acid (1132-61-2)</b>	
NOAEL (oral,rat,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:
Aspiration hazard	: No data available
<b>LESS Medium</b>	
Viscosity, kinematic	Not applicable
<b>Sodium pyruvate (113-24-6)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>Magnesium sulfate anhydrous (7487-88-9)</b>	
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	: May cause an allergic skin reaction.
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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<b>Sodium pyruvate (113-24-6)</b>	
LC50 - Fish [1]	> 100 mg/l (96 h, Pisces, QSAR, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)
ErC50 algae	> 3 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	2.78 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	94800000 mg/l Source: ECOSAR
NOEC (chronic)	3.95 mg/l Test organisms (species): Duration: '28 d'

<b>3-Morpholinopropanesulfonic acid (1132-61-2)</b>	
LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	> 100 mg/l Test organisms (species):

<b>Magnesium sulfate anhydrous (7487-88-9)</b>	
LC50 - Fish [1]	680 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Read-across, Lethal)
LC50 - Fish [2]	15500 mg/l (96 h, Gambusia affinis, Static system)
EC50 - Crustacea [1]	1700 mg/l (24 h, Daphnia magna)
EC50 72h - Algae [1]	0.00411 mg/l

### 12.2. Persistence and degradability

<b>LESS Medium</b>	
Persistence and degradability	Not rapidly degradable
<b>Sodium pyruvate (113-24-6)</b>	
Persistence and degradability	Readily biodegradable in water.
<b>3-Morpholinopropanesulfonic acid (1132-61-2)</b>	
Persistence and degradability	Not readily biodegradable in water.
<b>Magnesium sulfate anhydrous (7487-88-9)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

### 12.3. Bioaccumulative potential

<b>Sodium pyruvate (113-24-6)</b>	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-3.8 (Practical experience/observation, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)

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3-Morpholinopropanesulfonic acid (1132-61-2)	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-2.58 (Estimated value, KOWWIN)
Magnesium sulfate anhydrous (7487-88-9)	
Bioaccumulative potential	Not bioaccumulative.

### 12.4. Mobility in soil

Sodium pyruvate (113-24-6)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
3-Morpholinopropanesulfonic acid (1132-61-2)	
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Magnesium sulfate anhydrous (7487-88-9)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

### 12.5. Other adverse effects

Ozone : No data available  
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
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

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TDG	DOT	IMDG	IATA
<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

### 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

### Sodium pyruvate (113-24-6)

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

Canada DSL & NDSL Flags

Significant New Activity (SNAc) provisions of the Act apply

### 3-Morpholinopropanesulfonic acid (1132-61-2)

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

Canada DSL & NDSL Flags

Significant New Activity (SNAc) provisions of the Act apply

### Magnesium sulfate anhydrous (7487-88-9)

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

### Sodium pyruvate (113-24-6)

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

### 3-Morpholinopropanesulfonic acid (1132-61-2)

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

### Magnesium sulfate anhydrous (7487-88-9)

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 : 05-12-2025

Full text of hazard classes and H-statements:	
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic 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.