

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : LESS Medium
Product code : 9790
Type of product : Food Safety -- [Food Safety]
Part Number(s) : 9790|9792E|9798|400000055|400000056|400000648|700002820|700002821|700002822

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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

1.4. Emergency telephone 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: Hazards identification**2.1. Classification of the substance or mixture****Classification according to GB CLP (SI 2019:720 as amended)**

Hazardous to the aquatic environment – Acute Hazard, Category 1 H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1 H410
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to GB CLP (SI 2019:720 as amended)**

Hazard pictograms (GHS UK) :



GHS09

Signal word (GHS UK) : Warning
Hazard statements (GHS UK) : H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (GHS UK) : P273 - Avoid release to the environment.
P391 - Collect spillage.
P501 - Dispose of contents and container to a hazardous or special waste collection point, in accordance with local, regional, national and international regulations.

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2.3. Other hazards

Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of UK REACH regulation, in accordance with Annex XIII	Sodium pyruvate (113-24-6), Magnesium sulfate anhydrous (7487-88-9), Iron(II) sulfate heptahydrate (7782-63-0)
Substance(s) not meeting the vPvB criteria of UK REACH regulation, in accordance with Annex XIII	Sodium pyruvate (113-24-6), Magnesium sulfate anhydrous (7487-88-9), Iron(II) sulfate heptahydrate (7782-63-0)

Results of Endocrine Disruptor assessment

Component	
Substance(s) not considered as endocrine disrupting. They are not included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, nor identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP	Sodium pyruvate(113-24-6), Magnesium sulfate anhydrous(7487-88-9), Iron(II) sulfate heptahydrate(7782-63-0)

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to GB CLP (SI 2019:720 as amended)
Sodium pyruvate	CAS-No.: 113-24-6 EC-No.: 204-024-4	10 – 15	Aquatic Chronic 2, H411
Magnesium sulfate anhydrous	CAS-No.: 7487-88-9 EC-No.: 231-298-2	5 – 10	Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
Iron(II) sulfate heptahydrate substance with workplace exposure limit(s)	CAS-No.: 7782-63-0 EC-No.: 231-753-5	0.1 – 0.5	Acute Tox. 4 (Oral), H302 (ATE=1389 mg/kg bodyweight) Acute Tox. 4 (Inhalation:dust,mist), H332 (ATE=1.5 mg/l/4h) Skin Irrit. 2, H315 Eye Irrit. 2, H319

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

No additional information available

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

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SECTION 5: Firefighting measures

5.1. Extinguishing media

No additional information available

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

No additional information available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

No additional information available

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature : 15 – 30 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Iron(II) sulfate heptahydrate (7782-63-0)

United Kingdom - Occupational Exposure Limits

WEL TWA (OEL TWA)	1 mg/m ³
WEL STEL (OEL STEL)	2 mg/m ³

8.1.2. Recommended monitoring procedures

No additional information available

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8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

No additional information available

8.2.2.2. Skin protection

No additional information available

8.2.2.3. Respiratory protection

No additional information available

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: Beige.
Odour	: Characteristic.
Odour threshold	: Not available
pH	: 7 – 7.4
pH solution	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flash point	: Not applicable
Flammability	: Not available
Explosive limits	: Not applicable
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Relative vapour density at 20°C	: Not applicable
Relative density	: Not available
Density	: Not available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
Viscosity, kinematic	: Not applicable
Explosive properties	: Not available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Sodium pyruvate (113-24-6)	
LD50 oral	3533 mg/kg bodyweight (Mouse, Experimental value, Oral)
LD50 dermal rat	> 3000 mg/kg bodyweight (Rat, Male, Experimental value, Intraperitoneal)
Magnesium sulfate anhydrous (7487-88-9)	
LD50 oral rat	> 2000 mg/kg bodyweight (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))
Iron(II) sulfate heptahydrate (7782-63-0)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 oral	1389 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Anhydrous form, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 1.1 mg/l (EPA OPP 81-3: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Anhydrous form, Inhalation)
LC50 Inhalation - Rat (Dust/Mist)	> 1.1 mg/l Source: ECHA
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7 – 7.4
Sodium pyruvate (113-24-6)	
pH	7 (10 %)

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Magnesium sulfate anhydrous (7487-88-9)	
pH	7 (5 %)
Iron(II) sulfate heptahydrate (7782-63-0)	
pH	2.1 (1 %, 22 °C)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7 – 7.4
Sodium pyruvate (113-24-6)	
pH	7 (10 %)
Magnesium sulfate anhydrous (7487-88-9)	
pH	7 (5 %)
Iron(II) sulfate heptahydrate (7782-63-0)	
pH	2.1 (1 %, 22 °C)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Sodium pyruvate (113-24-6)	
Viscosity, kinematic	Not applicable (solid)
Magnesium sulfate anhydrous (7487-88-9)	
Viscosity, kinematic	Not applicable (solid)

Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

Sodium pyruvate (113-24-6)	
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)
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
ErC50 algae	> 3 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC (chronic)	3.95 mg/l Test organisms (species): Duration: '28 d'

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Magnesium sulfate anhydrous (7487-88-9)	
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

Iron(II) sulfate heptahydrate (7782-63-0)	
LC50 - Fish [1]	925 mg/l (96 h, Poecilia reticulata, Static system, Literature study)
EC50 - Crustacea [1]	152 mg/l (48 h, Daphnia magna, Literature study, Anhydrous form)
NOEC chronic crustacea	10 mg/l

12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable

Sodium pyruvate (113-24-6)	
Persistence and degradability	Readily biodegradable in water.

Magnesium sulfate anhydrous (7487-88-9)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

Iron(II) sulfate heptahydrate (7782-63-0)	
Persistence and degradability	Biodegradability in soil: no data available, Readily biodegradable in water.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

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

Magnesium sulfate anhydrous (7487-88-9)	
Bioaccumulative potential	Not bioaccumulative.

Iron(II) sulfate heptahydrate (7782-63-0)	
BCF - Fish [1]	≤ 20 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Flow-through system, Fresh water, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-0.37 Source: EPISUITE
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Sodium pyruvate (113-24-6)	
Surface tension	No data available in the literature

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Sodium pyruvate (113-24-6)	
Ecology - soil	No (test)data on mobility of the substance available.
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.
Iron(II) sulfate heptahydrate (7782-63-0)	
Ecology - soil	Adsorbs into the soil.

12.5. Results of PBT and vPvB assessment

Component	
Sodium pyruvate (113-24-6)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Magnesium sulfate anhydrous (7487-88-9)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII
Iron(II) sulfate heptahydrate (7782-63-0)	This substance does not meet the PBT criteria of UK REACH regulation, annex XIII This substance does not meet the vPvB criteria of UK REACH regulation, annex XIII

12.6. Other adverse effects

Ozone : Not classified (Based on available data, the classification criteria are not met)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

HP Code : HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.
HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
Transport document description				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable

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ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Not applicable	Not regulated	Not regulated	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. National regulations

UK REACH Annex XVII (Restriction List)

This product contains no substance(s) listed on UK REACH Annex XVII (Restriction List) equal to or above the level of SDS disclosure

UK REACH Annex XIV (Authorisation List)

This product contains no substance(s) listed on UK REACH Annex XIV (Authorisation List) equal to or above the 0.1% level of disclosure

UK REACH Candidate List (SVHC)

This product contains no substance(s) listed on the UK REACH Candidate List (SVHC) above the 0.1% level of disclosure

GB PIC regulation (Prior Informed Consent)

This product contains no substance(s) listed on the GB PIC List equal to or above the level of SDS disclosure

POP Regulation (Persistent Organic Pollutants)

This product contains no substance(s) listed on the GB POP List equal to or above the level of SDS disclosure

Ozone Regulation (S.I. No. 168 of 2015)

This product contains no substance(s) listed on the GB Ozone Depletion List equal to or above the level of SDS disclosure

Control of Poisons and Explosives Precursors Act

This product contains substance(s) listed on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure: Cycloheximide - 66-81-9

This product contains no substance(s) listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a reportable explosive precursor on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This substance is not listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations

Drug Precursors Regulation (EC 273/2004)

This product contains no substance(s) listed on the GB Drug Precursors List equal to or above the level of SDS disclosure

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15.1.2. Other Information

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Safety Data Sheet (SDS), UK

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.