

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : PALCAM Broth
Product code : NCM0049
Type of product : Food Safety -- [Food Safety]
Part Number(s) : NCM0049|400000766|700003093|700003094|700003095

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 Leshar 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)

Not classified

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)

No labelling applicable

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	Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6), Sodium carbonate (497-19-8), Lithium chloride (7447-41-8), Pancreatic digest of soy flour (68607-88-5), Ferric ammonium citrate (1185-57-5)
Substance(s) not meeting the vPvB criteria of UK REACH regulation, in accordance with Annex XIII	Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6), Sodium carbonate (497-19-8), Lithium chloride (7447-41-8), Pancreatic digest of soy flour (68607-88-5), Ferric ammonium citrate (1185-57-5)

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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	Lithium chloride(7447-41-8), Pancreatic digest of soy flour(68607-88-5), Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.(9005-65-6), Sodium carbonate(497-19-8), Ferric ammonium citrate(1185-57-5)

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)
Lithium chloride	CAS-No.: 7447-41-8 EC-No.: 231-212-3	15 – 25	Acute Tox. 4 (Oral), H302 (ATE=526 mg/kg bodyweight) Acute Tox. 4 (Dermal), H312 (ATE=1488 mg/kg bodyweight) STOT RE 2, H373
Pancreatic digest of soy flour	CAS-No.: 68607-88-5 EC-No.: 271-770-5	10 – 15	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)
Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.	CAS-No.: 9005-65-6	1 – 5	Aquatic Chronic 3, H412
Sodium carbonate	CAS-No.: 497-19-8 EC-No.: 207-838-8	1 – 5	Acute Tox. 4 (Inhalation:dust,mist), H332 (ATE=1.2 mg/l/4h) Eye Irrit. 2, H319
Ferric ammonium citrate substance with workplace exposure limit(s)	CAS-No.: 1185-57-5 EC-No.: 214-686-6	1 – 5	Not classified

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

No additional information available

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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 : 2 – 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

Ferric ammonium citrate (1185-57-5)	
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

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

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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

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	: 7.2 – 7.6
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

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

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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 carbonate (497-19-8)

LD50 oral rat	2800 mg/kg (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	2800 mg/kg
LD50 dermal rabbit	> 2000 mg/kg (16 CFR 1500.40, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LD50 dermal	2500 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	1.2 mg/l/4h

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 bodyweight (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))

Pancreatic digest of soy flour (68607-88-5)

LD50 oral rat	≥ 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
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Ferric ammonium citrate (1185-57-5)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: other:
LD50 dermal rabbit	> 7940 mg/kg Source: ECHA

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 7.2 – 7.6

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)

pH	5 – 7 (5 %)
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Lithium chloride (7447-41-8)

pH	7 (57 %, 20 °C, OECD 105: Water Solubility)
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Ferric ammonium citrate (1185-57-5)

pH	6 – 8 Source: ECHA
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Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 7.2 – 7.6

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)

pH	5 – 7 (5 %)
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Lithium chloride (7447-41-8)

pH	7 (57 %, 20 °C, OECD 105: Water Solubility)
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Ferric ammonium citrate (1185-57-5)

pH	6 – 8 Source: ECHA
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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)

Ferric ammonium citrate (1185-57-5)

NOAEL (animal/male, F0/P)	595.9 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: other:
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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)

Lithium chloride (7447-41-8)

NOAEL (oral, rat, 90 days)	84.8 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 452 (Chronic Toxicity Studies)
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STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)

Viscosity, kinematic	462.963 – 46648.148 mm ² /s
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Sodium carbonate (497-19-8)

Viscosity, kinematic	Not applicable (solid)
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Lithium chloride (7447-41-8)

Viscosity, kinematic	Not applicable (solid)
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Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)

LC50 - Fish [1]	817.89 mg/l Source: ECOSAR
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EC50 96h - Algae [1]	62.072 mg/l Source: ECOSAR
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Sodium carbonate (497-19-8)

LC50 - Fish [1]	300 mg/l (96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Lethal)
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Sodium carbonate (497-19-8)	
EC50 - Crustacea [1]	200 – 227 mg/l (48 h, Ceriodaphnia sp., Semi-static system, Fresh water, Experimental value, Locomotor effect)
EC50 - Crustacea [2]	200 – 227 mg/l Test organisms (species): Ceriodaphnia sp.
EC50 96h - Algae [1]	242 mg/l Source: ECOTOX
Lithium chloride (7447-41-8)	
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)
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)
ErC50 algae	> 400 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
LOEC (chronic)	2.53 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	1.7 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	17.35 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '34 d'
NOEC chronic algae	25 mg/l
Pancreatic digest of soy flour (68607-88-5)	
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
Ferric ammonium citrate (1185-57-5)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Static system, Fresh water, Experimental value)
LC50 - Fish [2]	> 100 mg/l Test organisms (species): other:
EC50 - Crustacea [1]	275 mg/l (48 h, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): other:
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Static system, Fresh water, Experimental value)
12.2. Persistence and degradability	
PALCAM Broth	
Persistence and degradability	Not rapidly degradable
Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
Persistence and degradability	Biodegradability in water: no data available.
Sodium carbonate (497-19-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

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Lithium chloride (7447-41-8)	
Persistence and degradability	Biodegradability in soil: not applicable, Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

Pancreatic digest of soy flour (68607-88-5)	
Persistence and degradability	Not rapidly degradable

Ferric ammonium citrate (1185-57-5)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
Bioaccumulative potential	No bioaccumulation data available.

Sodium carbonate (497-19-8)	
Partition coefficient n-octanol/water (Log Pow)	-6.19 Source: Quantitative Structure Activity Relation
Bioaccumulative potential	Not bioaccumulative.

Lithium chloride (7447-41-8)	
Partition coefficient n-octanol/water (Log Pow)	-0.46 (Estimated value, KOWWIN, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

Ferric ammonium citrate (1185-57-5)	
Partition coefficient n-octanol/water (Log Pow)	-0.737 (Calculated, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

Sodium carbonate (497-19-8)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for adsorption 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.

Ferric ammonium citrate (1185-57-5)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

Component	
Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	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
Sodium carbonate (497-19-8)	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
Lithium chloride (7447-41-8)	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

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Component	
Pancreatic digest of soy flour (68607-88-5)	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
Ferric ammonium citrate (1185-57-5)	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 : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.

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
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

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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 no substance(s) listed as a reportable 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 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

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 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2

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Full text of H- and EUH-statements:	
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful 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.