

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier: Chempak Citrus Winter Feed

Product code: n/a

1.2 Relevant uses of the substance or mixture and uses advised against:

Identified Use(s): Supplied for use as a fertiliser

Uses Advised Against: None stated

1.3 Details of the supplier of the safety data sheet:

Branded Garden Products t/a Thompson & Morgan

Poplar Lane

Ipswich

Suffolk

IP8 3BU

Telephone Number: 0333 4000033

Contact: The Safety Officer

1.4 Emergency telephone numbers:

Branded Garden Products t/a Thompson & Morgan: 0333 4000033 (9am to 5pm Monday to Friday, Excluding Public Holidays)

NHS: 111

National UK Emergency: 999

2. Hazards identification

2.1 Classification of the substance or mixture

CLASSIFICATION according to Regulation (EC) 1272/2008 Classification, Labelling and Packaging

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label Elements

Labelling elements according to Regulation (EC) No. 1272/2008 Classification, Labelling and Packaging

No labelling elements according to Regulation (EC) No. 1272/2008.

2.3 Other Hazards





Mixture not classified as PBT or vPvB.

3. Composition/information on ingredients

3.2 Mixtures

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3.3 Hazardous components

Chemical Name	CAS-No./ EC-No.	Annex Index/ REACH number	Pictogram(s) according to 1272/2008:	H-phrase(s) according to 1272/2008:	Concentrations [%]
Potassium nitrate	7757-79-1/ 231-818-8	Index number: - REACH number: 01-2119488224-35	GHS03 	Oxid. Solid 3; H272	35 - 45
Zinc sulphate hexahydrate	7446-19-7/ 231-793-3	Index number: 030-006-00-9 REACH number: 01-2119474684-27	GHS05  GHS07  GHS09 	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0.2

The full hazard information for individual components if not displayed in section 2 or 3 are displayed in Section 16.

4. First aid measures

4.1 Description of first aid measures

4.1.1 Inhalation

Keep patient calm, remove to fresh air and seek medical attention. If unconscious place in recovery position and seek medical advice.

4.1.2 Skin & Eye exposure

Skin: Wash off with soap and water

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes. Seek medical attention if symptoms persist or develop.

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4.1.3 Ingestion

Wash out mouth with water and give water to drink. Do not induce vomiting. Seek medical attention if symptoms persist or develop.

4.2 Most important symptoms and effects, both acute and delayed

No information specified.

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

Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

This mixture is not classified as flammable. Use extinguishing media appropriate for surrounding materials: Water; Water spray; Foam; Carbon Dioxide (CO₂); Dry powder.

5.2 Special Hazards arising from the substance or mixture

In combustion emits toxic fumes.

5.3 Advice for fire-fighters

In the event of fire, wear self-contained breathing apparatus and protective suit. Cool down containers/equipment exposed to heat with a water spray. Contain spread of extinguishing fluids (these fluids may be hazardous for the environment).

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Refer to section 8 of SDS for personal protection details. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

Ensure adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

6.2 Environmental precautions

Do not empty into drains.

Retain and dispose of contaminated wash water.

6.3 Methods and material for containment and cleaning up

Soak up using inert material such as sand. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

For personal protection see section 8.

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Avoid contact with skin and eyes. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry place in original container.

7.3 Specific end use(s)

Supplied for use as a fertilizer.

8. Exposure controls and personal protection**8.1 Control Parameters**

No workplace exposure limits specified in EH40/2005

DNELs and PNECs where available:

Potassium nitrate**DNELs:**

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal 20,8 mg/kg bodyweight/day

Long-term - systemic effects, inhalation 36,7 mg/m³

DNEL/DMEL (General population)

Long-term - systemic effects, oral 12,5 mg/kg bodyweight/day

Long-term - systemic effects, inhalation 10,9 mg/m³

Long-term - systemic effects, dermal 12,5 mg/kg bodyweight/day

PNECs:

PNEC aqua (freshwater) 0,45 mg/l

PNEC aqua (marine water) 0,045 mg/l

PNEC aqua (intermittent, freshwater) 4,5 mg/l

PNEC sewage treatment plant 18 mg/l

Source: Prayon SDS 03/02/2015

Zinc sulphate:

DNELs

Industry	Inhalation	Long Term	Systemic Effects	1 mg/m ³
Industry	Dermal	Long Term	Systemic Effects	8.3 mg/Kg/day
Consumer	Oral	Long Term	Systemic Effects	0.83 mg/Kg/day
Professional	Inhalation	Long Term	Systemic Effects	1.3 mg/m ³
Consumer	Dermal	Long Term	Systemic Effects	8.3 mg/Kg/day

The units are expressed in 'mg/µg' of: Zinc.

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PNEC

Freshwater	0.0206 mg/l
Marine water	0.0061 mg/l
Sediment (freshwater)	235.6* mg/Kg
Sediment (Marine water)	113* mg/Kg
Soil	106.8** mg/Kg
STP	0.0052*** mg/l

The units are expressed in 'mg/µg' of: Zinc. These PNECs are added value PNECs- they are to be added to the natural background levels of: Zinc. - in the appropriate compartments (e.g. soils, sediments).

(*) A generic bioavailability factor of 0.5 is applied by default, according to the EU risk assessment (ECB 2008).

(**) by default this value was multiplied by '3' to take into account "lab-to-field" differences in toxicity.

(***) (STP) The PNEC for STP was derived by applying an assessment factor to the lowest relevant toxicity value (5.2mg Zn/L). (Dutka et al., 1983)

Source: Norkem SDS 27/01/17

8.2 Exposure controls

Engineering measures: Ensure any engineering measures mentioned in section 7 of SDS are in place.

Respiratory protection: Respiratory protective device with particle filter.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Environmental: Not applicable.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance; Granular solid

Colour; Yellow

Odour; Information not available

Odour threshold; Information not available

pH; Information not available

Melting point/freezing; Not applicable

Initial boiling point and boiling range; Not applicable

Flash point; Not applicable

Evaporation rate; Not applicable

Flammability (solid, gas); The product is not flammable

Upper /lower flammability or explosive limits; Not applicable

Vapour Pressure; Not applicable

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Vapour density; Not applicable
Specific gravity; Information not available
Solubility (ies); information not available
Partition coefficient: n-octanol/water; Not applicable
Auto ignition temperature: Not applicable
Decomposition temperature: Information not available

9.2 Other Information

No information available.

10. Stability and reactivity

10.1 Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2 Chemical Stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions.
Decomposition may occur on exposure to conditions or materials listed below.

10.4 Conditions to avoid

Conditions to avoid: Heat.
Avoid dust generation.

10.5 Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids, organic materials.

10.6 Hazardous decomposition products

In combustion emits toxic fumes.

11. Toxicological information

11.1 Information on toxicological effects

The mixture has not been assessed for toxicological effects, the mixture classification is given in section 2 based on individual component contents. Individual component hazards if any are given in section 3.

Acute toxicity:	Not expected to be toxic.
Skin corrosion/irritation:	Product is not classified as causing skin corrosion or irritation
Serious eye damage/irritation:	Product is not classified as causing severe eye damage or irritation

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Respiratory or skin sensitisation:	Product is not classified as causing skin sensitisation.
Germ cell mutagenicity:	No information specified.
Carcinogenicity:	No information specified
Reproductive toxicity:	No information specified.
STOT-single exposure:	No information specified.
STOT-repeated exposure:	No information specified.
Aspiration hazard:	No information specified.

Toxicological information on hazardous ingredients where available:**Potassium Nitrate:**

Acute toxicity : Not classified

LD50 oral rat > 2000 mg/kg (OECD 425)

LD50 dermal rat > 5000 mg/kg (OECD 402)

LC50 inhalation rat (mg/l) > 527 mg/m³ (OECD 403)Skin corrosion/irritation : Not irritating. rabbit. OECD 404
pH: 5 - 8Serious eye damage/irritation : Not irritating. rabbit. OECD 405
pH: 5 - 8

Respiratory or skin sensitisation : Did not cause sensitisation. mouse, OECD 429

Germ cell mutagenicity : Negative /OECD 471. Negative/OECD 476

Carcinogenicity : Not a carcinogen suspected agent.

Reproductive toxicity : NOAEL: > = 1500 mg/kg bw/day(rat, oral, 28 days, OECD 422)

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure): NOAEL: > = 1500 mg/kg bw/day(rat, OECD 422)

Aspiration hazard : Not classified

Source: Prayon SDS 03/02/2015**Zinc sulphate:****Acute toxicity:**

Acute Toxicity (Oral)

Notes (oral LD₅₀) Very soluble zinc sulphate (monohydrate, hexahydrate and heptahydrate) has LD50 oral values ranging from 574 to 2,949 mg/kg bw, 862 to 4,429 mg/kg bw and 920 to 4,725 mg/kg bw, respectively for the three forms of zinc sulphate. Tests conducted to standard protocols Litton (Bionetics, 1974, Courtois et al., 1978.)

ATE oral (mg/kg) 500.0

Acute Toxicity (Dermal LD50) > 2000 mg/kg Rat
Test method(s): OECD 402. (Van Huygevoort 1999)

Acute Toxicity (Inhalation LC50)

Rat 4 hours

Effects of inhalation exposure to zinc sulphate were limited to pulmonary effects only.

Skin Corrosion/Irritation:

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Dose Rabbit

Primary dermal irritation index (PDI) 0

Erythema\eschar score

No erythema (0).

Oedema score

No oedema (0).

Not classified. Test method(s): OECD 404. (Van Huygevoort 1999)

Not irritating.

Serious eye damage/irritation:

Irritating. Test method(s): OECD 405. (Van Huygevoort 1999)

Respiratory or skin sensitisation:

Skin sensitisation

Patch Test: Mouse

(Van Huygevoort, 1999 i, Ikarashi et al, 1992)

Not Sensitising.

Germ cell mutagenicity:

Genotoxicity - In Vitro

Gene Mutation:

In vitro genotoxicity studies indicate that zinc compounds do not have genotoxic activity [Zinc CSR(s), 2010]. This conclusion is in line with those achieved by other regulatory reviews of the genotoxicity of zinc compounds (WHO, 2001; EU RAR, 2004, MAK, 2009).

Negative.

Genotoxicity - In Vivo

Chromosome aberration:

In vivo genotoxicity studies indicate that zinc compounds do not have genotoxic activity [Zinc CSR(s), 2010]. This conclusion is in line with those achieved by other regulatory reviews of the genotoxicity of zinc compounds (WHO, 2001; EU RAR, 2004, MAK, 2009).

Negative.

Carcinogenicity:

Carcinogenicity

No experimental or epidemiological evidence exists to justify classification of zinc compounds for carcinogenic activity (based on cross-reading between Zn compounds; no classification for carcinogenicity required) (Chemical Safety report (CSR) zinc oxide. 2010).

Reproductive Toxicity:

Reproductive Toxicity - Fertility -

No experimental or epidemiological evidence exists to justify classification of zinc compounds for reproductive or developmental toxicity (based on cross-reading between Zn compounds; no classification for reproductive toxicity required) (Chemical Safety Report (CSR) for zinc compounds. 2010)

Specific target organ toxicity - single exposure:

STOT - Single exposure -

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No experimental or epidemiological sufficient evidence for specific target organ toxicity (single exposure) (based on cross-reading from ZnO; no classification for target organ toxicity (single exposure: STOT-SE) required) (Heydon and Kagan, 1990; Gordon et al., 1992; Mueller and Seger, 1985 [Cited in Chemical Safety report (CSR) zinc sulphate. 2010])).

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure -

No experimental or epidemiological sufficient evidence for specific target organ toxicity (repeated exposure) (no classification for specific target organ toxicity (repeated exposure: STOT-RE) required) (Lam et al, 1985, 1988; Conner et al. , 1988 [Cited in Chemical Safety Report (CSR) for zinc(s). 2010])).

Aspiration hazard:

No data available.

Source: Norkem SDS 27/01/17

12. Ecological information**12.1 Toxicity**

Not classified as harmful to aquatic life.

Ecotoxicological information on hazardous ingredients where available:**Potassium Nitrate:**

LC50 fishes 1 1378 mg/l (96h - Poecilia reticulata, OECD 203)

EC50 Daphnia 1 490 mg/l (48h - Daphnia)

EC50 other aquatic organisms 1 > 1000 mg/l (3h - ACTIVATED SLUDGE, OECD 209)

ErC50 (algae) > 1700 mg/l (10 d - Benthic diatoms)

NOEC (additional information) ACTIVATED SLUDGE 180 mg/l OECD 209

Source: Prayon SDS 03/02/2015

Zinc sulphate:

The Acute aquatic toxicity database on zinc contains data on 11 standard species obtained under standard testing conditions at different pH and hardness. The full analysis of these data is given in the CSR.

The reference values for acute aquatic toxicity, based on the lowest observed EC50 values of the corresponding databases at different pH and expressed as Zn⁺⁺ ion concentration are:

- for pH <7: 0.413 mg Zn⁺⁺/l (48 hr - Ceriodaphnia dubia test according to US EPA 821-R-02-012 standard test protocol; reference: Hyne et al 2005)

- for pH >7-8.5: 0.136 mg Zn⁺⁺/l (72 hr - Selenastrum capricornutum (=Pseudokirchorniella subcapitata) test according to OECD 201 standard protocol; reference: Van Ginneken, 1994)

After applying the molecular weight correction (transformation/dissolution testing is not relevant since this zinc compound is readily soluble), the specific reference values for acute aquatic toxicity of the different zinc sulphates are:

For zinc monohydrate (a ZnSO₄.H₂O/Zn molecular weight ratio of 2.74):

- for pH <7: 1.13 mg Zn/l (based on 48 hr Ceriodaphnia dubia test cfr above)

- for pH >7-8.5: 3.73 mg Zn/l (based on 72 hr Selenastrum capricornutum test cfr above)

For zinc hexahydrate (a ZnSO₄.6H₂O/Zn molecular weight ratio of 4.12):

- for pH <7: 1.70 mg Zn/l (based on 48 hr Ceriodaphnia dubia test cfr above)

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- for pH >7-8.5: 0.56 mg Zn/l (based on 72 hr Selenastrum capricornutum test cfr above)
For zinc heptahydrate (a ZnSO₄.7H₂O/Zn molecular weight ratio of 4.4):
 - for pH <7: 1.82 mg Zn/l (based on 48 hr Ceriodaphnia dubia test cfr above)
 - for pH >7-8.5: 0.60 mg Zn/l (based on 72 hr Selenastrum capricornutum test cfr above)
- M-factor: 1

CHRONIC AQUATIC TOXICITY:

The chronic freshwater aquatic toxicity database on zinc contains high quality chronic NOEC/EC10 values on 23 species (8 taxonomic groups) obtained under a variety of conditions.

The chronic marine-water aquatic toxicity database on zinc contains high quality chronic NOEC/EC10 values on 39 species (9 taxonomic groups) obtained under a variety of conditions.

These data, outlined in the CSR, were compiled in a species sensitivity distribution, from which the PNECs for freshwater and marine-water were derived (expressed as Zn⁺²ion concentration).

Source: Norkem SDS 27/01/17

12.2 Persistence and degradability

Not biodegradable

12.3 Bioaccumulative potential

Bioaccumulation

12.4 Mobility in soil

Information not available

12.5 Results of PBT and vPvB

Not classified as PBT or vPvB

12.6 Other adverse effects

Information not specified.

13. Disposal considerations

13.1 Waste Treatment Methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised Disposal company.

Recovery operations: Dispose of in compliance with all local and national requirements.

Disposal of packaging: Empty containers should be disposed of in accordance with local and national regulations.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. Transport information

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830**14.1 UN number:** Not classified**14.2 UN proper shipping name:** -**14.3 Transport hazard:** -**14.4 Packing group:** -**14.5 Environmental hazards:** Not a marine pollutant**14.6 Special precautions for user:** No Information available**14.8 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:** No information available

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

This substance/mixture is classified and labelled in accordance with Regulation EC 1272/2008, the EC Fertiliser Regulations 2003 and Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2 Chemical Safety Assessment

CSA not undertaken for this product

16. Other information**Reasons for update**

Removal of references to Directives 67/548/EEC and 1999/45/EC and statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging)	Sections 1,2,3,15,16
Change in details in ingredients	Section 3
Addition of DNELs and PNELs	Section 8
Updating of toxicity data	Section 11
Updating of ecotoxicity data	Section 12
Addition of abbreviations in 'Legend'	Section 16

Other Hazard Information assigned to individual ingredients, but not carried to final classification:

H272	May intensify fire; oxidiser
H302	Harmful if swallowed
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

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Acute Tox. 4 (oral)	Acute Toxicity Category 4
Aquatic Acute 1	Aquatic acute toxicity Category 1
Aquatic Chronic 1	Aquatic chronic toxicity Category 1
DNEL	Derived No-Effect Level
DMEL	Derived Minimal Effect Level
Eye Dam. 1	Eye Damage Category 1
LD50	Lethal Dose 50%
LC50	Lethal Concentration 50%
Oxid. Solid 3	Oxidising solid Category 3
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
STOT	Specific Target Organ Toxicity
TWA	Time weighted Average
vPvB	very Persistent and very Toxic

SDS information:

This Safety data sheet is compiled using data submitted for raw materials and practical experience.

This Safety Data Sheet is prepared in compliance with Regulation 1272/2008 and Annex II of the REACH Regulation 453/2010.

The information given herein is, to the best of our knowledge, correct and is presented in good faith but no warranty, expressed or implied is given.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release, and is not to be considered a warranty of quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.