



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

1.1. Product identifier

Product form	: Mixture
Product name	: Veg B
UFI	: JWQU-UUTS-J006-9FAT
Product code	: 300.682.000

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

1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use
Use of the substance/mixture	: Fertilizers

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

King Solomon Nutrients, Inc.
2215 Palma Drive, Unit H
Ventura, California 93003
United States
T +01 (805)232-5852
www.ksolomonag.com

1.4. Emergency telephone number

Emergency number	: National Poisons Information Service +44 870 600 6266 worldwide: http://www.who.int/ipcs/poisons/centre/directory/en
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SECTION 2 : Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Reproductive toxicity, Category 1B H360

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

Adverse physicochemical, human health and environmental effects

May damage fertility or the unborn child.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS08

CLP Signal word	: Danger
Contains	: disodium tetraborate, decahydrate
Hazard statements (CLP)	: H360FD - May damage fertility. May damage the unborn child.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use. P280 - Wear face protection, eye protection, protective gloves, protective clothing. P308+P313 - IF exposed or concerned: Get medical advice/attention.

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P501 - Dispose of contents and container to Remove to an authorized waste treatment plant.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3 : Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
disodium tetraborate, decahydrate substance listed as REACH Candidate (Disodium tetraborate, anhydrous)	CAS -No.: 1303-96-4 EC -No.: 215-540-4 EC Index-No.: 005-011-01-1 REACH -no: 01-2119490790-32	≤ 1	Repr. 1B, H360FD
Manganese sulphate monohydrate substance with a Community workplace exposure limit	CAS -No.: 10034-96-5 EC -No.: 232-089-9 EC Index-No.: 025-003-00-4 REACH-no: 01-2119456624-35	≤ 1	Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Chronic 2, H411
Zinc sulphate monohydrate	CAS-No.: 7446-19-7 EC-No.: 231-793-3 EC Index-No.: 030-006-00-9 REACH-no: 01-2119474684-27	≤ 1	Acute Tox. 4 (Oral), H302 (ATE=500mg/kg bodyweight) Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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

SECTION 4 : First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
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 or a doctor if you feel unwell.

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

Treat symptomatically.

SECTION 5 : Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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5.3. Advice for firefighters

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

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

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.

6.4. Reference to other sections

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. 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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

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

disodium tetraborate, decahydrate (1303-96-4)	
United Kingdom-Occupational Exposure Limits	
WEL TWA (IOEL TWA)[1]	5 mg/m ³

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Manganese sulphate monohydrate (10034-96-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	0.2 mg/m ³ (Inhalable fraction) 0.05 mg/m ³ (Respirable fraction)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	0.2 mg/m ³ 0.05 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

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls :
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s) :



8.2.2.1. Eye and face protection

Eye protection :
Safety glasses

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses	Dust, Fine dust		EN 166

8.2.2.2. Skin protection

Skin and body protection :
Wear suitable protective clothing

Hand protection :
Protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Nitrile rubber (NBR)	6 (> 480 minutes)			EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection :
[In case of inadequate ventilation] wear respiratory protection.

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Respiratory protection			
Device	Filter type	Condition	Standard
Filtering Half -face mask	Type P2		

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls :
Avoid release to the environment.

SECTION 9 : Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granular powder
Colour	: White.
Odour	: odourless.
Odour threshold	: No data available
pH	: :4 – 7
Relative evaporation rate (butylacetate=1)	: 1 %
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.
Vapour pressure	: No data available
Relative vapour 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
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Not oxidising.
Explosive limits	: Not applicable

9.2. Other information

No additional information available

SECTION 10 : Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

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10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 : Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

disodium tetraborate, decahydrate (1303-96-4)

LD50 oral rat 2660 mg/kg (Rat, Oral)

LD50 dermal rabbit > 2000 mg/kg (Rabbit, Dermal)

Manganese sulphate monohydrate (10034-96-5)

LD50 oral rat 2150

LC50 Inhalation - Rat > 4.45 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation))

LC50 Inhalation - Rat (Dust/Mist) > 4.45 mg/l/4h

Zinc sulphate monohydrate (7446-19-7)

LD50 oral rat > 574 mg/kg

LC50 Inhalation - Rat ≈ 926 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: OECD Guideline

LC50 Inhalation - Rat (Dust/Mist) > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Not classified

: pH: 4 – 7

disodium tetraborate, decahydrate (1303-96-4)

pH 9 (5.0 %)

Manganese sulphate monohydrate (10034-96-5)

pH 9 (5.0 %)

Zinc sulphate monohydrate (7446-19-7)

pH 3.7 – 4.07 (Literature, 20 °C)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Manganese sulphate monohydrate (10034-96-5)

NOAEL (chronic, oral, animal/male, 2 years) 615 mg/kg bodyweight

NOAEL (chronic, oral, animal/female, 2 years) 715 mg/kg bodyweight

Reproductive toxicity : May damage fertility or the unborn child.

STOT -single exposure : Not classified

STOT -repeated exposure : Not classified

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Manganese sulphate monohydrate (10034-96-5)	
STOT-repeated exposure	May cause damage to organs (brain) through prolonged or repeated exposure (inhalation).
Aspiration hazard	: Not classified
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Viscosity, kinematic	Not applicable
disodium tetraborate, decahydrate (1303-96-4)	
Viscosity, kinematic	Not applicable
Manganese sulphate monohydrate (10034-96-5)	
Viscosity, kinematic	Not applicable
Zinc sulphate monohydrate (7446-19-7)	
Viscosity, kinematic	Not applicable

SECTION 12 : Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor 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

disodium tetraborate, decahydrate (1303-96-4)	
LC50 - Fish [1]	100 – 1000 mg/l (96 h, Pisces)
LC50 - Fish [2]	1900 mg/l (Pimephales promelas)
LC50 - Other aquatic organisms [1]	151 mg/l (48 h, Daphnia magna)
EC50 - Crustacea [1]	141 mg/l (48 h, Daphnia magna)
EC50 - 72h - Algae [1]	66 mg/l Source: EHCA
EC50 - 72h - Algae [1]	54 mg/l Test organisms (species): Phaeodactylum tricornutum
EC50 96h - Algae [1]	158 mg/l (Scenedesmus subspicatus, Anhydrous form)
NOEC chronic fish	6.4 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '34 d'
Manganese sulphate monohydrate (10034-96-5)	
LC50 - Fish [1]	2850 mg/l (LC50; 96 h)
EC50 - Crustacea [1]	8.28 mg/l (48 h, Daphnia magna, Anhydrous form)
EC50 - Crustacea [2]	10 ml/l (EC50; 24 h)
EC50 72h - Algae [1]	61 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
Zinc sulphate monohydrate (7446-19-7)	
LC50 - Fish [1]	1.7 mg/l
LC50 - Fish [2]	2.4 mg/l
EC50 - Crustacea [1]	0.56 mg/l
EC50 - Crustacea [2]	1 mg/l
EC50 72h - Algae [1]	3.73 mg/l (Selenastrum capricornutum, Literature study, Monohydrate)

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12.2. Persistence and degradability

disodium tetraborate, decahydrate (1303-96-4)

Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Manganese sulphate monohydrate (10034-96-5)

Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Zinc sulphate monohydrate (7446-19-7)

Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

disodium tetraborate, decahydrate (1303-96-4)

Bioaccumulative potential	Not bioaccumulative.
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Manganese sulphate monohydrate (10034-96-5)

Bioaccumulative potential	Bioaccumulation: not applicable.
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Zinc sulphate monohydrate (7446-19-7)

BCF - Other aquatic organisms [1]	38 – 28960 (28 day(s), Palaemon elegans, Semi-static system, Salt water, Read-across, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	-0.07
Bioaccumulative potential	Bioaccumable.

12.4. Mobility in soil

disodium tetraborate, decahydrate (1303-96-4)

Ecology - soil	Adsorbs into the soil. May be harmful to plant growth, blooming and fruit formation.
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Zinc sulphate monohydrate (7446-19-7)

Ecology - soil	No (test)data on mobility of the substance available.
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12.5. Results of PBT and vPvB assessment

Component

disodium tetraborate, decahydrate (1303-96-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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12.6. Other adverse effects

No additional information available

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SECTION 13 : Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14 : Transport information

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

14.1 UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

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Air transport

Not applicable

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. EU -Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations $\geq 0.1\%$ or SCL: Disodium tetraborate, anhydrous (EC 215-540-4, CAS 1303-96-4)

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Please see https://ec.europa.eu/home-affairs/system/files/2021-11/list_of_competent_authorities_and_national_contact_points_en.pdf

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

For the following substances of this mixture a chemical safety assessment has been carried out :

disodium tetraborate, decahydrate

Manganese sulphate monohydrate

SECTION 16 : Other information

Abbreviations and acronyms :

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	DMEL = Derived Minimal Effect level

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Abbreviations and acronyms :	
DNEL	DNEL = Derived -No Effect Level
EC -No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	PNEC = Predicted No -Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	SDS = Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS -No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	zPzB = Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Data sources

: ECHA Website: Information on Registered Substances
Handbook of Chemistry and Physics CRC Press Inc
Information suppliers
BIG -database.

Other information

: **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

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Full text of H - and EUH -statements :	
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 Dam. 1	Serious eye damage/eye irritation, Category 1
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H360	May damage fertility or the unborn child.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
Repr. 1B	Reproductive toxicity, Category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

Safety Data Sheet (SDS), EU

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.