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

1.1 Product identifier

Product name FOLIAR EXTRA

Other means of identification

Product code 50001163

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

Use of the Sub-

Crop nutrition

stance/Mixture

Recommended restrictions

: Use as recommended by the label. For professional users only.

on use

1.3 Details of the supplier of the safety data sheet

<u>Supplier Address</u> FMC Agro Limited

Rectors Lane, Pentre

Flintshire CH5 2DH United Kingdom

Telephone: + 44 1244 537370 E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call: England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency: England and Wales: 111 Scotland: 84 54 24 2424

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Eye irritation, Category 2 H319: Causes serious eye irritation.

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Long-term (chronic) aquatic hazard, Category 3

H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms



Signal word Warning

Hazard statements H319 Causes serious eye irritation.

Harmful to aquatic life with long lasting effects.

Precautionary statements Prevention:

> P264 Wash hands thoroughly after handling.

Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/

attention.

Disposal:

P501 Dispose of contents/container in accordance with local

regulation.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

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Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
magnesium nitrate	10377-60-3 233-826-7	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 1 - < 10
phosphoric acid	7664-38-2 231-633-2 015-011-00-6	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412 ——— specific concentration limit Skin Corr. 1B; H314 >= 25 % Skin Irrit. 2; H315 10 - < 25 % Eye Irrit. 2; H319 10 - < 25 %	>= 2.5 - < 3
Citric acid, monohydrate	5949-29-1	Eye Irrit. 2; H319	>= 1 - < 10
trisodium nitrilotriacetate	5064-31-3 225-768-6 607-620-00-6	Acute Tox. 4; H302 Eye Irrit. 2; H319 Carc. 2; H351 ————————————————————————————————————	>= 1 - < 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.

Consult a physician.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

Avoid inhalation, ingestion and contact with skin and eyes.

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If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

If inhaled : Move to fresh air.

If unconscious, place in recovery position and seek medical

advice.

If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambu-

lance.

In case of skin contact : If on clothes, remove clothes.

If on skin, rinse well with water.

Wash off immediately with plenty of water for at least 15

minutes.

Wash contaminated clothing before re-use.

Get medical attention if irritation develops and persists.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do NOT induce vomiting.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

High volume water jet

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5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

: Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod- :

ucts

Ammonia

Fire may produce irritating, corrosive and/or toxic gases.

5.3 Advice for firefighters

Special protective equipment :

for firefighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored sepa-

rately in closed containments.

Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Ensure adequate ventilation.

If it can be safely done, stop the leak.

Do not touch or walk through the spilled material. Never return spills in original containers for re-use.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Neutralize with chalk, alkali solution or ammonia.

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local

/ national regulations (see section 13).

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6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national

regulations.

Advice on protection against

fire and explosion

Keep away from combustible material.

Hygiene measures : When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must

comply with the technological safety standards.

Advice on common storage : Do not store near acids.

Further information on stor-

age stability

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Crop nutrition

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
phosphoric acid	7664-38-2	TWA	1 mg/m3	GB EH40
		STEL	2 mg/m3	GB EH40

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I	I	TWA	1 mg/m3	2000/39/EC
	Curth or inform	1	1 mg/m3	2000/33/LC
	Further information: Indicative			
		STEL	2 mg/m3	2000/39/EC
	Further inforn	nation: Indicative		
manganese dini-	10377-66-9	TWA (Inhalable)	0.2 mg/m3	GB EH40
trate			(Manganese)	
		TWA (Respirable	0.05 mg/m3	GB EH40
		fraction)	(Manganese)	
		TWA (inhalable	0.2 mg/m3	2017/164/EU
		fraction)	(Manganese)	
	Further inforn	nation: Indicative		
		TWA (Respirable	0.05 mg/m3	2017/164/EU
		fraction)	(Manganese)	
	Further inforn	nation: Indicative		
copper dinitrate	3251-23-8	TWA (Dusts and	1 mg/m3	GB EH40
		mists)	(Copper)	
		STEL (Dusts and	2 mg/m3	GB EH40
		mists) `	(Copper)	

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
potassium dihy- drogenorthophos- phate	Workers	Inhalation	Long-term systemic effects	14.82 mg/m3
	Consumers	Inhalation	Long-term systemic effects	6.35 mg/m3
	Consumers	Oral	Long-term systemic effects	70 mg/kg
trisodium nitrilotri- acetate	Workers	Inhalation	Long-term systemic effects	3.2 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0.8 mg/m3
	Consumers	Oral	Long-term systemic effects	0.3 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
urea	Fresh water	0.47 mg/l
	Marine water	0.047 mg/l
magnesium nitrate	Sewage treatment plant	18 mg/l
Citric acid, monohydrate	Fresh water	0.440 mg/l
	Marine water	0.044 mg/l
	Sewage treatment plant	1000 mg/l
	Fresh water sediment	34.6 mg/kg dry
		weight (d.w.)
	Marine sediment	34.6 mg/kg dry
		weight (d.w.)
	Soil	33.1 mg/kg dry
		weight (d.w.)
trisodium nitrilotriacetate	Fresh water	0.93 mg/l

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	Marine water	0.093 mg/l
	Sewage treatment plant	270 mg/l
	Intermittent use (freshwater)	0.8 mg/l
	Fresh water sediment	3.64 mg/kg dry weight (d.w.)
	Marine sediment	0.364 mg/kg dry weight (d.w.)
	Soil	0.182 mg/kg dry weight (d.w.)
	Secondary poisoning (predators)	0.200 µg/kg food
manganese dinitrate	Fresh water	0.029 - 0.0358 mg/l
	Intermittent use (freshwater)	0.029 - 0.1041 mg/l
	Marine water	400 - 2900 ng/l
	Sewage treatment plant	0.0114 mg/kg dry weight (d.w.)
	Fresh water sediment	0.00114 mg/kg dry weight (d.w.)
	Soil	25.1 mg/kg dry weight (d.w.)
copper dinitrate	Fresh water	0.0078 mg/l
	Marine water	0.0052 mg/l
	Sewage treatment plant	0.230 mg/l
	Fresh water sediment	87 mg/kg
	Marine sediment	676 mg/kg
	Soil	65 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Skin and body protection : Impervious clothing

Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

Respiratory protection : No personal respiratory protective equipment normally re-

quired.

Protective measures : Plan first aid action before beginning work with this product.

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Always have on hand a first-aid kit, together with proper in-

structions.

Ensure that eye flushing systems and safety showers are

located close to the working place. Wear suitable protective equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Form : liquid
Colour : brown
Odour : characteristic
Odour Threshold : No data available

pH : 1.50 - 2.50

Concentration: 100 %

Melting point/freezing point : No data available

Initial boiling point and boiling

range No data available
Flash point : No data available
Evaporation rate : No data available
Upper explosion limit / Upper : No data available

flammability limit

Lower explosion limit / Lower : No data available

flammability limit

Vapour pressure : No data available Relative vapour density : No data available

Relative density : 1.21 - 1.22

Density : No data available Bulk density : No data available

Solubility(ies)

Water solubility : soluble

Solubility in other solvents : No data available

Partition coefficient: n- : No data available

octanol/water

Auto-ignition temperature : No data available Decomposition temperature : No data available

Viscosity

Viscosity, dynamic :

No data available
No data available

Viscosity, kinematic Explosive properties

No data available

Oxidizing properties : Non-oxidizing

9.2 Other information

Self-ignition : No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures

Avoid formation of aerosol.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

irritating gases

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg

Method: Calculation method

Components:

magnesium nitrate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg

Method: OECD Test Guideline 423

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Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Method: OECD Test Guideline 402

phosphoric acid:

Acute oral toxicity : LD50 (Rat, female): > 300 - < 2,000 mg/kg

Method: OECD Test Guideline 423

Citric acid, monohydrate:

Acute oral toxicity : LD50 Oral (Mouse, male and female): 5,400 mg/kg

Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal (Rat, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

trisodium nitrilotriacetate:

Acute oral toxicity : LD50 (Rat, female): 1,470 mg/kg

Acute inhalation toxicity : LC0 (Rat, male): 2.307 mg/l

Exposure time: 4 d

Test atmosphere: dust/mist Remarks: no mortality

Acute dermal toxicity : LD0 (Rabbit, male and female): 2,000 mg/kg

Remarks: no mortality

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Remarks : Not expected to be irritating to skin.

Remarks : Extremely corrosive and destructive to tissue.

Components:

magnesium nitrate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

phosphoric acid:

Species : Rabbit Assessment : Corrosive

Result : Corrosive after 3 minutes to 1 hour of exposure

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Citric acid, monohydrate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

trisodium nitrilotriacetate:

Species : Rabbit
Method : Draize Test
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Assessment : Irritating to eyes.

Remarks : May cause irreversible eye damage.

Remarks : May cause irreversible eye damage.

Components:

magnesium nitrate:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Eye irritation

phosphoric acid:

Result : Irreversible effects on the eye Remarks : Based on skin corrosivity

Citric acid, monohydrate:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

trisodium nitrilotriacetate:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

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Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Product:

Remarks : Not expected to cause skin sensitisation

Components:

magnesium nitrate:

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Method : OECD Test Guideline 429

Result : Does not cause skin sensitisation.

trisodium nitrilotriacetate:

Test Type : Buehler Test Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

magnesium nitrate:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity- As-

sessment

In vitro tests did not show mutagenic effects

phosphoric acid:

Genotoxicity in vitro : Test Type: reverse mutation assay

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Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Citric acid, monohydrate:

Genotoxicity in vitro : Test Type: Micronucleus test

Method: OECD Test Guideline 487

Result: positive

Test Type: reverse mutation assay Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Test Type: chromosome aberration assay

Species: Rat (male) Application Route: Oral

Method: OECD Test Guideline 475

Result: negative

Test Type: Rodent Dominant Lethal Assay

Species: Rat (male and female)

Application Route: Oral

Method: Regulation (EC) No. 440/2008, Annex, B.22

Result: negative

Germ cell mutagenicity- As-

sessment

Animal testing did not show any mutagenic effects.

trisodium nitrilotriacetate:

Genotoxicity in vitro : Test Type: reverse mutation assay

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse (male)
Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

Test Type: Cytogenetic assay Species: Mouse (male) Application Route: Oral

Result: negative

Germ cell mutagenicity- As- : Weight of evidence does not support classification as a germ

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sessment cell mutagen.

Carcinogenicity

Based on available data, the classification criteria are not met.

Components:

ment

Citric acid, monohydrate:

Carcinogenicity - Assess-

cinoa

Weight of evidence does not support classification as a car-

cinogen

trisodium nitrilotriacetate:

Species : Rat, male and female

Application Route : Oral Exposure time : 104 weeks

Dose : 0, 9, 92, 921 mg/kg/d

: 9 mg/kg bw/day

LOAEL : 92 mg/kg bw/day

Result : positive

Carcinogenicity - Assess-

ment

: Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

magnesium nitrate:

Effects on fertility : Species: Rat, male and female

Application Route: Oral

Dose: 0, 250, 750, and 1,500 milligram per kilogram

Duration of Single Treatment: 28 d

General Toxicity - Parent: NOAEL: > 1,500 mg/kg body weight

Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Species: Rat

Application Route: Oral

Dose: 0, 250, 750, and 1,500 milligram per kilogram

Duration of Single Treatment: 28 d

General Toxicity Maternal: NOAEL: > 1,500 mg/kg body

weight

Developmental Toxicity: NOAEL: > 1,500 mg/kg body weight

Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Reproductive toxicity - As- : Weight of evidence does not support classification for repro-

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sessment ductive toxicity

phosphoric acid:

Effects on fertility : Test Type: reproductive and developmental toxicity study

Species: Rat, male and female Application Route: Ingestion

General Toxicity - Parent: NOAEL: 500 mg/kg body weight General Toxicity F1: NOAEL: 500 mg/kg body weight

Method: OECD Test Guideline 422

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Mouse

Application Route: Ingestion

General Toxicity Maternal: NOAEL: 370 mg/kg body weight Developmental Toxicity: NOAEL: 370 mg/kg body weight

Result: negative

Remarks: Based on data from similar materials

Citric acid, monohydrate:

Effects on foetal develop-

ment

: Test Type: reproductive and developmental toxicity study

Species: Mouse Application Route: Oral

Dose: 0, 2.41, 11.2, 52.0, 241 mg/k

Duration of Single Treatment: 6 - 15 d

Teratogenicity: NOAEL: > 241 mg/kg body weight

Test Type: reproductive and developmental toxicity study

Species: Rat

Application Route: Oral

Dose: 0, 2.95, 13.7, 63.6, 295 mg/k Duration of Single Treatment: 6 - 15 d

Teratogenicity: NOAEL: > 295 mg/kg body weight

Test Type: reproductive and developmental toxicity study

Species: Rabbit Application Route: Oral

Dose: 0, 4.25, 19.75, 91.70, 425 mg Duration of Single Treatment: 6 - 15 d

Teratogenicity: NOAEL: > 425 mg/kg body weight

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

trisodium nitrilotriacetate:

Effects on fertility : Test Type: Two-generation study

Species: Rat, male and female

Application Route: Oral

Dose: 90 and 450 mg/kg bw/day

General Toxicity - Parent: LOAEL: 450 mg/kg body weight

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Result: negative

Effects on foetal develop-

ment

Test Type: reproductive and developmental toxicity study

Species: Rat

Application Route: Oral

Dose: 90 and 450 mg/kg bw/day

General Toxicity Maternal: LOAEL: 450 mg/kg bw/day Developmental Toxicity: NOAEL: 450 mg/kg bw/day

Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

STOT - single exposure

Based on available data, the classification criteria are not met.

Components:

trisodium nitrilotriacetate:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Components:

magnesium nitrate:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Citric acid, monohydrate:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

magnesium nitrate:

Species : Rat, male and female NOAEL : > 1,500 mg/kg

Application Route : Oral Exposure time : 28d

Dose : 0, 250, 750, 1,500 mg/kg/day Method : OECD Test Guideline 422

Remarks : Based on data from similar materials

phosphoric acid:

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Species : Rat, male and female

NOAEL : 250 mg/kg Application Route : Oral - gavage Exposure time : 42 - 54 d

Method : OECD Test Guideline 422

Citric acid, monohydrate:

Species : Rat

NOAEL : 4,000 mg/kg LOAEL : 8,000 mg/kg

Application Route : Oral Exposure time : 10d

Dose : 2, 4, 8, 16 g/kg bw/day

Species : Mouse

NOAEL : 1,000 mg/kg

LOAEL : 2,000 mg/kg

Application Route : Oral Exposure time : 10d

Dose : 1, 2, 4, 8 g/kg bw/day

trisodium nitrilotriacetate:

Species : Rat, male
NOAEL : 9 mg/kg bw/day
Application Route : Oral - feed
Exposure time : 28 d

Dose : 0, 9 mg/kg ppm

Species : Rat, male and female

LOAEC : 0.342 mg/l
Application Route : Inhalation
Test atmosphere : dust/mist
Exposure time : 28 d

Dose : 0.0102, 0.2131, 0.3422 mg/l

Species : Rabbit

NOAEL : 50 mg/kg bw/day

Application Route : Dermal Exposure time : 28 or 91 d Dose : 0, 50 mg/kg

Aspiration toxicity

Based on available data, the classification criteria are not met.

Further information

Product:

Remarks : No data available

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SECTION 12: Ecological information

12.1 Toxicity

Components:

magnesium nitrate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

LC50 (Poecilia reticulata (guppy)): 1,378 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

LC50 (Cyprinus carpio (Carp)): 95 - 102 mg/l

Exposure time: 48 h Test Type: semi-static test

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 39 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to algae/aguatic

plants

EC50 (diatoms): > 1,700 mg/l

Exposure time: 10 d Test Type: static test

Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

icity)

NOEC: 58 mg/l

Exposure time: 30 d

Species: Pimephales promelas (fathead minnow)

Test Type: flow-through test

Remarks: Based on data from similar materials

NOEC: 157 mg/l Exposure time: 32 d

Species: Pimephales promelas (fathead minnow)

Test Type: flow-through test

Remarks: Based on data from similar materials

phosphoric acid:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 3 - 3.25 mg/l

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Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Citric acid, monohydrate:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 440 mg/l

Test Type: static test

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): 1,535 mg/l

Exposure time: 24 h Test Type: static test

Toxicity to algae/aquatic

plants

NOEC (Scenedesmus quadricauda (Green algae)): 425 mg/l

Exposure time: 8 d Test Type: static test

Toxicity to microorganisms : NOEC (Pseudomonas putida): > 10,000 mg/l

Exposure time: 16 h

Test Type: Cell multiplication inhibition test

NOEC (Protozoa): 325 mg/l

Exposure time: 72 h

Toxicity to terrestrial organ-

isms

NOEC: > 4 mg/kg Exposure time: 14 d

Species: Birds

LD50: > 4 mg/kg Exposure time: 14 d Species: Birds

trisodium nitrilotriacetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 114 mg/l

Exposure time: 96 h

Test Type: flow-through test

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Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Gammarus fasciatus (freshwater shrimp)): 98 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 91.5 mg/l

Exposure time: 72 h

Method: EU Method C3

NOEC (Desmodesmus subspicatus (green algae)): 1.43 mg/l

Exposure time: 72 h Method: EU Method C3

Toxicity to microorganisms : (Protozoa): > 400 mg/l

Exposure time: 48 h

Test Type: Growth inhibition

Toxicity to fish (Chronic tox-

icity)

NOEC: 54 mg/l

Exposure time: 229 d

Species: Pimephales promelas (fathead minnow)

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 9.3 mg/l Exposure time: 147 d

Species: Gammarus fasciatus (freshwater shrimp)

Test Type: flow-through test

12.2 Persistence and degradability

Components:

phosphoric acid:

Biodegradability : Remarks: The methods for determining biodegradability are

not applicable to inorganic substances.

Citric acid, monohydrate:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301B

Result: Readily biodegradable. Method: OECD Test Guideline 301E

Result: Inherently biodegradable. Method: OECD Test Guideline 302B

trisodium nitrilotriacetate:

Biodegradability : Inoculum: activated sludge

Result: Readily biodegradable.

Biodegradation: 100 % Exposure time: 14 d

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Method: OECD Test Guideline 301E

12.3 Bioaccumulative potential

Components:

Citric acid, monohydrate:

Bioaccumulation : Bioconcentration factor (BCF): 3.2

Method: QSAR

Partition coefficient: n-

octanol/water

: log Pow: -1.55

trisodium nitrilotriacetate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: -13.2 (25 °C)

Method: QSAR

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting poten-

tial

This substance/mixture does not contain components considered to have endocrine disrupting properties for environment

according to UK REACH Article 57(f).

Additional ecological infor-

mation

: An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

Components:

phosphoric acid:

Additional ecological infor-

mation

: Harmful effects on aquatic organisms also due to pH shift.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

Packaging that is not properly emptied must be disposed of as

the unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.2 UN proper shipping name

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA : Not regulated as a dangerous good

14.4 Packing group

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ADN : Not regulated as a dangerous good
ADR : Not regulated as a dangerous good
RID : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA (Cargo) : Not regulated as a dangerous good
IATA (Passenger) : Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mix-

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the fol-

lowing entries should be considered:

Number on list 3

nitric acid ...% [C ≤ 70 %] (Number

on list 3)

UK REACH Candidate list of substances of very high

concern (SVHC) for Authorisation

Not applicable

The Persistent Organic Pollutants Regulations (retained

Regulation (EU) 2019/1021 as amended for Great Brit-

ain)

Not applicable

Regulation (EU) No 2024/590 on substances that de-

plete the ozone layer

: Not applicable

UK REACH List of substances subject to authorisation

(Annex XIV)

Not applicable

Control of Major Accident Hazards Regulations

2015 (COMAH)

Not applicable

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the

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Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains chemical substance(s) exempt from

CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control

product.

ENCS : Not in compliance with the inventory

ISHL : Not in compliance with the inventory

KECI: Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

TECI: Not in compliance with the inventory

15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

SECTION 16: Other information

Full text of H-Statements

H272	: May intensify fire; oxidizer.
H290	: May be corrosive to metals.
H302	: Harmful if swallowed.
H314	: Causes severe skin burns and eye damage.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H351	: Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effect

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Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Chronic : Long-term (chronic) aquatic hazard

Carc. : Carcinogenicity
Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation

Met. Corr. : Corrosive to metals

Ox. Sol. : Oxidizing solids

Skin Corr. : Skin corrosion

STOT SE : Specific target organ toxicity - single exposure

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first

list of indicative occupational exposure limit values

2017/164/EU : Europe. Commission Directive 2017/164/EU establishing a

fourth list of indicative occupational exposure limit values

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

2000/39/EC / TWA : Limit Value - eight hours 2000/39/EC / STEL : Short term exposure limit 2017/164/EU / TWA : Limit Value - eight hours

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule: ENCS - Existing and New Chemical Substances (Japan): ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN

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- United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information

Classification of the mixture: Classification procedure:

Eye Irrit. 2 H319 Based on product data or assessment

Aquatic Chronic 3 H412 Calculation method

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