

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



HA 381

Version	Revision Date:	SDS Number:	Date of last issue: -
1.3	13.09.2024	50001213	Date of first issue: 19.07.2018

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

1.1 Product identifier

Product name HA 381

Other means of identification

Product code 50001213

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

Use of the Sub-
stance/Mixture : A fertilizer with micronutrients for use in agriculture

Recommended restrictions
on use : Use as recommended by the label.
Do not use product for anything outside of the above specified
uses.

1.3 Manufacturer or supplier's details

Supplier Address

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)**

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Skin irritation, Category 2

H315: Causes skin irritation.

Eye irritation, Category 2

H319: Causes serious eye irritation.

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

:

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

:

Prevention:

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water and soap.

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

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

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

P362 + P364 Take off contaminated clothing and wash it before reuse.

Hazardous components which must be listed on the label:

phosphoric acid

ethanediol

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.

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.

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.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
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 concentra- tion limit Skin Corr. 1B; H314 ≥ 25 % Skin Irrit. 2; H315 10 - < 25 % Eye Irrit. 2; H319 10 - < 25 %	≥ 20 - < 25
ethanediol	107-21-1 203-473-3 603-027-00-1	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)	≥ 1 - < 10
Citric acid, monohydrate	5949-29-1	Eye Irrit. 2; H319	≥ 1 - < 10
potassium laurate	10124-65-9 233-344-7	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory sys- tem)	≥ 1 - < 10

For explanation of abbreviations see section 16.

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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.
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 symptoms persist, call a physician.
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 ambulance. |
| In case of skin contact | : Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.
Wash off immediately with plenty of water for at least 15 minutes.
Get medical attention immediately if irritation develops and persists. |
| In case of eye contact | : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
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 damage. |
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Causes severe burns.

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 circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet
Do not spread spilled material with high-pressure water streams.

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 products : Fire may produce irritating, corrosive and/or toxic gases.
Carbon oxides
Ammonia

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation.
Use personal protective equipment.
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.

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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.
Soak up with inert absorbent material (e.g. sand, silica gel,
acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

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.
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 : Normal measures for preventive fire protection.
fire and explosion

Hygiene measures : Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage : Keep container tightly closed in a dry and well-ventilated
areas and containers place. Containers which are opened must be carefully re-
sealed and kept upright to prevent leakage. Electrical installa-
tions / working materials must comply with the technological
safety standards.

Advice on common storage : Do not store near acids.

Further information on stor- : No decomposition if stored and applied as directed.
age stability

7.3 Specific end use(s)

Specific use(s) : Fertilizers

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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/m ³	GB EH40
		STEL	2 mg/m ³	GB EH40
		TWA	1 mg/m ³	2000/39/EC
	Further information: Indicative			
		STEL	2 mg/m ³	2000/39/EC
	Further information: Indicative			
ethanediol	107-21-1	TWA (particles)	10 mg/m ³	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA (Vapour)	20 ppm 52 mg/m ³	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL (Vapour)	40 ppm 104 mg/m ³	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	20 ppm 52 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	40 ppm 104 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
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Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
ethanediol	Fresh water	10 mg/l
	Marine water	1 mg/l
	Sewage treatment plant	199.5 mg/l
	Fresh water sediment	37 mg/kg dry weight (d.w.)
	Marine sediment	3.7 mg/kg dry weight (d.w.)
	Soil	1.53 mg/kg dry

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		weight (d.w.)
urea	Fresh water	0.47 mg/l
	Marine water	0.047 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.)

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles

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 concentration of the dangerous substance at the work place.

Respiratory protection : No personal respiratory protective equipment normally required.

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
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 : colourless
Odour : Barely perceptible

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Odour Threshold : No data available
pH : < 2.0
Concentration: 1 %

Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Relative density :
Density : No data available
Bulk density : No data available
Solubility(ies)
Water solubility : No data available
Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Explosive properties : No data available
Oxidizing properties : Non-oxidizing

9.2 Other information

Particle size : No data available
Particle Size Distribution : No data available

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

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10.5 Incompatible materials

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

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

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: 12.86 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:

phosphoric acid:

Acute oral toxicity : LD50 (Rat, female): > 300 - < 2,000 mg/kg
Method: OECD Test Guideline 423

ethanediol:

Acute inhalation toxicity : LC0 (Rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Remarks: no mortality

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg

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

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Skin corrosion/irritation

Causes skin irritation.

Product:

Assessment	:	Irritating to skin.
Result	:	Mild skin irritation
Remarks	:	May cause mild irritation.

Components:

phosphoric acid:

Species	:	Rabbit
Assessment	:	Corrosive
Result	:	Corrosive after 3 minutes to 1 hour of exposure

ethanediol:

Species	:	Rabbit
Result	:	No skin irritation

Citric acid, monohydrate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

potassium laurate:

Result	:	Skin irritation
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Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Assessment	:	Irritating to eyes.
Result	:	Eye irritation
Remarks	:	Eye irritation

Components:

phosphoric acid:

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

ethanediol:

Species	:	Rabbit
Result	:	No eye irritation

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Citric acid, monohydrate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days

potassium laurate:

Result	:	Moderate 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
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Components:

ethanediol:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.

Germ cell mutagenicity

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

Components:

phosphoric acid:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative
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	:	Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative
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ethanediol:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OPPTS 870.5100 Result: negative
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Genotoxicity in vivo	:	Test Type: dominant lethal test Species: Rat Application Route: Oral Result: negative
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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- Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

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

Components:

ethanediol:

Species : Mouse
Application Route : Oral
Exposure time : 24 month(s)
Result : negative

Citric acid, monohydrate:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

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

Components:

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

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General Toxicity F1: NOAEL: 500 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : 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 development : 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 - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

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

Components:

potassium laurate:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

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

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Components:

ethanediol:

Exposure routes	: Oral
Target Organs	: Kidney
Assessment	: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Citric acid, monohydrate:

Assessment	: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
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Repeated dose toxicity

Components:

phosphoric acid:

Species	: Rat, male and female
NOAEL	: 250 mg/kg
Application Route	: Oral - gavage
Exposure time	: 42 - 54 d
Method	: OECD Test Guideline 422

ethanediol:

Species	: Rat
NOAEL	: 150 mg/kg
Application Route	: Oral
Exposure time	: 12 Months
Species	: Dog
NOAEL	: > 2,200 - < 4,400 mg/kg
Application Route	: Dermal
Exposure time	: 4 Weeks
Method	: OECD Test Guideline 410

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

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Aspiration toxicity

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

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

phosphoric acid:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 3 - 3.25 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l
aquatic invertebrates
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
plants
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

ethanediol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 72,860 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l
aquatic invertebrates
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : IC50 (Pseudokirchneriella subcapitata (green algae)): 10,940
plants
mg/l
Exposure time: 96 h

Toxicity to microorganisms : (activated sludge): > 1,995 mg/l
Exposure time: 30 min

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Method: ISO 8192

Toxicity to fish (Chronic toxicity) : 1,500 mg/l
Exposure time: 28 d
Species: Menidia peninsulae (tidewater silverside)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : 33,911 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

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

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

12.2 Persistence and degradability

Components:

phosphoric acid:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

ethanediol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 10 d

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Method: OECD Test Guideline 301A

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

12.3 Bioaccumulative potential

Components:

ethanediol:

Partition coefficient: n- : log Pow: -1.36
octanol/water

Citric acid, monohydrate:

Bioaccumulation : Bioconcentration factor (BCF): 3.2
Method: QSAR

Partition coefficient: n- : log Pow: -1.55
octanol/water

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.

: 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.

: 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.

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12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

Components:

phosphoric acid:

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

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 chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

ADN	: UN 1805
ADR	: UN 1805
RID	: UN 1805
IMDG	: UN 1805
IATA	: UN 1805

14.2 UN proper shipping name

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ADN	:	PHOSPHORIC ACID SOLUTION (Orthophosphoric acid)
ADR	:	PHOSPHORIC ACID SOLUTION (Orthophosphoric acid)
RID	:	PHOSPHORIC ACID SOLUTION (Orthophosphoric acid)
IMDG	:	PHOSPHORIC ACID SOLUTION (Orthophosphoric acid)
IATA	:	Phosphoric acid, solution (Orthophosphoric acid)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 8	
ADR	: 8	
RID	: 8	
IMDG	: 8	
IATA	: 8	

14.4 Packing group

ADN	
Packing group	: III
Classification Code	: C1
Hazard Identification Number	: 80
Labels	: 8
ADR	
Packing group	: III
Classification Code	: C1
Hazard Identification Number	: 80
Labels	: 8
Tunnel restriction code	: (E)
RID	
Packing group	: III
Classification Code	: C1
Hazard Identification Number	: 80
Labels	: 8
IMDG	
Packing group	: III
Labels	: 8
EmS Code	: F-A, S-B
IATA (Cargo)	
Packing instruction (cargo aircraft)	: 856
Packing instruction (LQ)	: Y841

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Packing group : III
Labels : Corrosive

IATA (Passenger)

Packing instruction (passenger aircraft) : 852
Packing instruction (LQ) : Y841
Packing group : III
Labels : Corrosive

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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 mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	: Conditions of restriction for the following entries should be considered: Number on list 3 ethanediol (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 Britain)	: Not applicable
Regulation (EC) on substances that deplete the ozone layer	: Not applicable

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UK REACH List of substances subject to authorisation : Not applicable
(Annex XIV)

Control of Major Accident Hazards Regulations : Not applicable
2015 (COMAH)

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 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	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: On the inventory, or 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	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

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

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SECTION 16: Other information

Full text of H-Statements

H290	: May be corrosive to metals.
H302	: Harmful if swallowed.
H314	: Causes severe skin burns and eye damage.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H335	: May cause respiratory irritation.
H373	: May cause damage to organs through prolonged or repeated exposure if swallowed.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Met. Corr.	: Corrosive to metals
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
STOT RE	: Specific target organ toxicity - repeated exposure
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
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	: Limit Value - eight hours
2000/39/EC / STEL	: Short term exposure limit
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; AIIIC - 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;

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

Further information

Classification of the mixture:

Skin Irrit. 2	H315
Eye Irrit. 2	H319

Classification procedure:

Based on product data or assessment
Based on product data or assessment

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