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

1.1 Product identifier

Trade name : Multi Acid / Surfactant Formulation

Product code : PROQUATIC PONDACID, Complex Organic Acid Solution

(Bulk)

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

Use of the Sub- : Veterinary product

stance/Mixture

Recommended restrictions : Not

on use

Not applicable

1.3 Details of the supplier of the safety data sheet

Company : MSD

Walton Manor, Walton

MK7 7AJ Milton Keynes - United Kingdom

Telephone : +1-908-740-4000

E-mail address of person

responsible for the SDS

: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

+1-908-423-6000

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)

Skin corrosion, Sub-category 1B H314: Causes severe skin burns and eye damage.

Serious eye damage, Category 1 H318: Causes serious eye damage.

Specific target organ toxicity - single ex-

posure, Category 3

H335: May cause respiratory irritation.

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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 : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statements : Prevention:

P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

mouth. Do NOT induce vomiting. Immediately call

a POISON CENTER/ doctor.

P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off

immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON

CENTER/ doctor.

P304 + P340 + P312 IF INHALED: Remove person to fresh

air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously

with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Hazardous components which must be listed on the label:

D-Glucopyranose, Oligomeric, C8-10 Glycosides

Citric acid

Phosphoric acid

Formic acid

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.

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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)
D-Glucopyranose, Oligomeric, C8-10 Glycosides	68515-73-1	Eye Dam. 1; H318	>= 20 - < 30
Citric acid	77-92-9 201-069-1 607-750-00-3	Eye Irrit. 2; H319 STOT SE 3; H335	>= 20 - < 30
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 ————————————————————————————————————	>= 10 - < 20
Acetic acid	64-19-7 200-580-7 607-002-00-6	Flam. Liq. 3; H226 Skin Corr. 1A; H314 Eye Dam. 1; H318 ————————————————————————————————————	>= 5 - < 10

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Formic acid	64-18-6 200-579-1 607-001-00-0	Flam. Liq. 3; H226 Met. Corr. 1; H290 Acute Tox. 4; H302 Acute Tox. 3; H331 Skin Corr. 1A; H314 Eye Dam. 1; H318 ————————————————————————————————————	>= 5 - < 10
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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

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

and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

If inhaled : If inhaled, remove to fresh air.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Get medical attention immediately.

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Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn. Get medical attention immediately.

If swallowed, DO NOT induce vomiting.

If vomiting occurs have person lean forward.

Call a physician or poison control centre immediately.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes digestive tract burns.

Causes serious eye damage. May cause respiratory irritation.

Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod: :

ucts

Carbon oxides

Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

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Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

barriers).

Retain and dispose of contaminated wash water.

If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

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

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Advice on safe handling : Do not get on skin or clothing.

Avoid breathing mist or vapours.

Do not swallow. Do not get in eyes.

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Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-

sessment

Keep container tightly closed.

Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.

Take care to prevent spills, waste and minimize release to the

environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye

flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contami-

nated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in

accordance with the particular national regulations.

Advice on common storage : Do not store with the following product types:

Strong oxidizing agents

Self-reactive substances and mixtures

Organic peroxides

Explosives

7.3 Specific end use(s)

Specific use(s) : No data available

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
		TWA	1 mg/m3	2000/39/EC
	Further information: Indicative			
		STEL	2 mg/m3	2000/39/EC
	Further information: Indicative			
Acetic acid	64-19-7	TWA	10 ppm	GB EH40
			25 mg/m3	

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		STEL	20 ppm 50 mg/m3	GB EH40
		TWA	10 ppm 25 mg/m3	2017/164/EU
	Further info	Further information: Indicative		
		STEL	20 ppm 50 mg/m3	2017/164/EU
	Further info	Further information: Indicative		
Formic acid	64-18-6	TWA	5 ppm 9.6 mg/m3	GB EH40
		TWA	5 ppm 9 mg/m3	2006/15/EC
	Further info	Further information: Indicative		

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
Formic acid	Workers	Inhalation	Long-term systemic effects	9.5 mg/m3
	Workers	Inhalation	Long-term local ef- fects	9.5 mg/m3
	Consumers	Inhalation	Long-term systemic effects	6 mg/m3
	Consumers	Inhalation	Long-term local effects	6 mg/m3
	Consumers	Skin contact	Long-term systemic effects	3 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	3 mg/kg bw/day
Acetic acid	Workers	Inhalation	Long-term local effects	25 mg/m3
	Workers	Inhalation	Acute local effects	25 mg/m3
	Consumers	Inhalation	Long-term local ef- fects	25 mg/m3
	Consumers	Inhalation	Acute local effects	25 mg/m3
Phosphoric acid	Workers	Inhalation	Long-term local effects	1 mg/m3
	Workers	Inhalation	Acute local effects	2 mg/m3
	Consumers	Inhalation	Long-term local ef- fects	0.73 mg/m3
D-Glucopyranose, Oligomeric, C8-10 Glycosides	Workers	Inhalation	Long-term systemic effects	420 mg/m3
	Workers	Skin contact	Long-term systemic effects	595000 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	124 mg/m3
	Consumers	Skin contact	Long-term systemic effects	357000 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	35.7 mg/kg bw/day

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Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
Acetic acid	Fresh water	3.058 mg/l
	Freshwater - intermittent	30.58 mg/l
	Marine water	0.3058 mg/l
	Sewage treatment plant	85 mg/l
	Fresh water sediment	11.36 mg/kg dry weight (d.w.)
	Marine sediment	1.136 mg/kg dry weight (d.w.)
	Soil	0.47 mg/kg dry weight (d.w.)
Citric acid	Fresh water	0.44 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	3.46 mg/kg dry weight (d.w.)
	Soil	33.1 mg/kg dry weight (d.w.)
D-Glucopyranose, Oligomeric, C8-10 Glycosides	Fresh water	0.176 mg/l
_	Freshwater - intermittent	0.27 mg/l
	Marine water	0.018 mg/l
	Sewage treatment plant	560 mg/l
	Fresh water sediment	1.516 mg/kg dry weight (d.w.)
	Marine sediment	0.152 mg/kg dry weight (d.w.)
	Soil	0.654 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	111.11 mg/kg food

8.2 Exposure controls

Engineering measures

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).

Minimize open handling.

Personal protective equipment

Eye/face protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

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aerosols.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Skin and body protection : Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable

suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter should conform to BS EN 14387

Filter type : Combined particulates, acidic, inorganic gas/vapour and or-

ganic vapour type (ABE-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid Colour : vellow

Odour : No data available
Odour Threshold : No data available

pH : No data available

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

Flammability (solid, gas) : Not applicable

Flammability (liquids) : 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 : No data available

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Density : No data available

Solubility(ies)

Water solubility : No data available Partition coefficient: n- : No data available

octanol/water

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight : No data available

Particle size : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of : Inhalation

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exposure Skin contact

Ingestion Eye contact

Acute toxicity

Not classified based on available information.

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: vapour
Method: Calculation method

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 401

Remarks: The test was conducted equivalent or similar to

guideline

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Method: OECD Test Guideline 402

Remarks: The test was conducted equivalent or similar to

guideline

Citric acid:

Acute oral toxicity : LD50 (Mouse): 5,400 mg/kg

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

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Phosphoric acid:

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

Method: OECD Test Guideline 423

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acetic acid:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Remarks: Based on data from similar materials

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Formic acid:

Acute oral toxicity : Acute toxicity estimate (Humans): 500 mg/kg

Method: Expert judgement

Acute inhalation toxicity : LC50 (Rat): 7.4 mg/l

Exposure time: 4 h
Test atmosphere: vapour

Assessment: Corrosive to the respiratory tract.

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

Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes severe burns.

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : The test was conducted according to guideline

Citric acid:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Phosphoric acid:

Result : Corrosive after 3 minutes to 1 hour of exposure

Remarks : Based on national or regional regulation.

Acetic acid:

Species : Rabbit

Result : Corrosive after 3 minutes or less of exposure

Formic acid:

Result : Corrosive after 3 minutes or less of exposure

Remarks : Based on extreme pH

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Species : Rabbit

Method : OECD Test Guideline 405

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Result : Irreversible effects on the eye

Remarks : The test was conducted equivalent or similar to guideline

Citric acid:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

Phosphoric acid:

Species : Rabbit

Result : Irreversible effects on the eye

Acetic acid:

Species : Rabbit

Result : Irreversible effects on the eye

Formic acid:

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

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Test Type : Local lymph node assay (LLNA)

Exposure routes : Skin contact Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Remarks : The test was conducted equivalent or similar to guideline

Formic acid:

Test Type : Buehler Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

Germ cell mutagenicity

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Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Remarks: The test was conducted according to guideline

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: The test was conducted equivalent or similar to

guideline

Citric acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: in vitro micronucleus test

Result: positive

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: Ingestion

Result: negative

Phosphoric acid:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Acetic acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: Chromosome aberration test in vitro

Result: negative

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Test Type: DNA damage and repair, unscheduled DNA syn-

thesis in mammalian cells (in vitro)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: equivocal

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Rat

Application Route: inhalation (vapour)

Result: negative

Remarks: Based on data from similar materials

Formic acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Test Type: Sex-linked recessive lethal test in Drosophila mel-

anogaster (in vivo)

Application Route: Ingestion Method: OECD Test Guideline 477

Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Acetic acid:

Species : Mouse
Application Route : Skin contact
Exposure time : 32 weeks
Result : negative

Formic acid:

Species : Rat
Application Route : Ingestion
Exposure time : 104 weeks
Result : negative

Remarks : Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

Components:

Citric acid:

Effects on foetal develop- : Test Type: One-generation reproduction toxicity study

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ment Species: Rat

Application Route: Ingestion

Result: negative

Phosphoric acid:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 422

Result: negative

Effects on foetal develop-

ment

Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 422

Result: negative

Acetic acid:

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Formic acid:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion
Method: OECD Test Guideline 416

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

Remarks: Based on data from similar materials

STOT - single exposure

May cause respiratory irritation.

Components:

Citric acid:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

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Repeated dose toxicity

Components:

Citric acid:

Species : Rat

NOAEL : 4,000 mg/kg
LOAEL : 8,000 mg/kg
Application Route : Ingestion
Exposure time : 10 Days

Phosphoric acid:

Species : Rat

NOAEL : 250 mg/kg
Application Route : Ingestion
Exposure time : 40 - 52 Days

Method : OECD Test Guideline 422

Acetic acid:

Species : Rat

NOAEL : 290 mg/kg Application Route : Ingestion Exposure time : 8 Weeks

Formic acid:

Species : Rat
NOAEL : 400 mg/kg
Application Route : Ingestion
Exposure time : 52 Weeks

Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 100.81 mg/l

Exposure time: 96 h Method: ISO 7346/2

Remarks: The test was conducted according to guideline

Toxicity to daphnia and other :

aquatic invertebrates

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

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: The test was conducted according to guideline

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Toxicity to algae/aquatic

plants

EC10 (Desmodesmus subspicatus (green algae)): 6.25 mg/l

Exposure time: 72 h

ErC50 (Desmodesmus subspicatus (green algae)): 27.22 mg/l

Exposure time: 72 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 560 mg/l

Exposure time: 6 h

Citric acid:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 1,535 mg/l

Exposure time: 24 h

Phosphoric acid:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

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

ErC50 (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 : > 100 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Acetic acid:

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

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

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

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

ErC50 (Skeletonema costatum (marine diatom)): > 100 mg/l

Exposure time: 72 h

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Remarks: Based on data from similar materials

NOEC (Skeletonema costatum (marine diatom)): > 1 mg/l

Exposure time: 72 h

Remarks: Based on data from similar materials

Toxicity to microorganisms NOEC (Pseudomonas putida): 1,150 mg/l

Exposure time: 16 h

Toxicity to daphnia and other : aquatic invertebrates (Chron-

NOEC: > 1 mg/l Exposure time: 21 d

ic toxicity) Species: Daphnia magna (Water flea)

Formic acid:

LC50 (Danio rerio (zebra fish)): 130 mg/l Toxicity to fish

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 365 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,240

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): 295

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

NOEC: 72 mg/l Toxicity to microorganisms

Exposure time: 13 d

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: > 100 ma/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

12.2 Persistence and degradability

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Biodegradability Result: Readily biodegradable.

> Biodegradation: 100 % Exposure time: 28 d

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Method: OECD Test Guideline 301E

Remarks: The test was conducted according to guideline

Citric acid:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 97 % Exposure time: 28 d

Method: OECD Test Guideline 301B

Acetic acid:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 96 % Exposure time: 20 d

Biodegradation Simulation

Tests

Environmental Compartment: Soil

Value type: DT50

Value: 2 d

Temperature: 20 °C

Formic acid:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 100 % Exposure time: 28 d

Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential

Components:

D-Glucopyranose, Oligomeric, C8-10 Glycosides:

Partition coefficient: n- : log Pow: < 4

octanol/water Remarks: Expert judgement

Citric acid:

Partition coefficient: n-

log Pow: -1.72

octanol/water

Acetic acid:

Partition coefficient: n-

: log Pow: -0.17

octanol/water

Formic acid:

Partition coefficient: n-

: log Pow: -2.1

octanol/water

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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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).

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

According to the European Waste Catalogue, Waste Codes

are not product specific, but application specific.

Waste codes should be assigned by the user, preferably in

discussion with the waste disposal authorities.

Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1760
ADR : UN 1760
RID : UN 1760
IMDG : UN 1760
IATA : UN 1760

14.2 UN proper shipping name

ADN : CORROSIVE LIQUID, N.O.S.

(Phosphoric acid, Formic acid)

ADR : CORROSIVE LIQUID, N.O.S.

(Phosphoric acid, Formic acid)

RID : CORROSIVE LIQUID, N.O.S.

(Phosphoric acid, Formic acid)

IMDG : CORROSIVE LIQUID, N.O.S.

(Phosphoric acid, Formic acid)

IATA : Corrosive liquid, n.o.s.

(Phosphoric acid, Formic acid)

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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 : C9
Hazard Identification Number : 80
Labels : 8

ADR

Packing group : III
Classification Code : C9
Hazard Identification Number : 80
Labels : 8
Tunnel restriction code : (E)

RID

Packing group : III
Classification Code : C9
Hazard Identification Number : 80
Labels : 8

IMDG

Packing group : III
Labels : 8
EmS Code : F-A, S-B

IATA (Cargo)

Packing instruction (cargo : 856

aircraft)

Packing instruction (LQ) : Y841
Packing group : III

Labels : Corrosive

IATA (Passenger)

Packing instruction (passen: 852

ger aircraft)

Packing instruction (LQ) : Y841
Packing group : III

Labels : Corrosive

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

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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

Remarks : 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 fol-

lowing entries should be considered:

Number on list 3

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or

not.

UK REACH Candidate list of substances of very high

concern (SVHC) for Authorisation

ry high : Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Brit-

ain)

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

Not applicable

GB Export and import of hazardous chemicals - Prior

Not applicable

Informed Consent (PIC) Regulation

The Control of Explosives Precursors and Poisons Regulations

(Poisons Act. as amended)

This product is regulated by the Poisons Act 1972 (as amended).

All suspicious transactions, and significant disappearances and Par

thefts must be reported.

Phosphoric acid (Schedule 1A

Part 1)

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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 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:

AICS : not determined

DSL : not determined

IECSC : not determined

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version

are highlighted in the body of this document by two vertical

lines.

Full text of H-Statements

H226 : Flammable liquid and vapour. 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.

H331 : Toxic if inhaled.

H335 : May cause respiratory irritation.

Full text of other abbreviations

Acute Tox. : Acute toxicity

Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Met. Corr. : Corrosive to metals
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

2006/15/EC : Europe. Indicative occupational exposure limit values
2017/164/EU : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values

LIK FILAO M/FI - Markalana Finana and L'arita

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

2000/39/EC / TWA : Limit Value - eight hours 2000/39/EC / STEL : Short term exposure limit 2006/15/EC / TWA : Limit Value - eight hours

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2017/164/EU / 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 - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sheet

Sources of key data used to compile the Safety Data

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Classification of the mixture: Classification procedure:

Skin Corr. 1B H314 Calculation method
Eye Dam. 1 H318 Calculation method
STOT SE 3 H335 Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for

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safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN