according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

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

1.1 Product identifier

Trade name : RELYON VIRKON TABLETS

Product code : 00000000057804632

UFI : FHM6-102V-300K-PFF5

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

Use of the Sub-: Disinfectants, Cleaning agent

stance/Mixture

1.3 Details of the supplier of the safety data sheet

Company Antec International Limited

Windham Road

CO10 2XD Sudbury / Suffolk

Chilton Industrial Estate, Great Britain

Responsible Department : +49 221 8885 2288

infosds@lanxess.com

1.4 Emergency telephone number

Emergency telephone number : For 24/7 multilingual emergency please call

CHEMTREC EMEA: +44 20 3885 0382 and mention CCN

1001748.

#### **SECTION 2: Hazards identification**

# 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2 H315: Causes skin irritation.

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

Long-term (chronic) aquatic hazard, Cat-

H412: Harmful to aquatic life with long lasting ef-

egory 3

fects.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 09.03.2021

 2.0
 04.04.2022
 203000008840
 Country / Language: IS / 6N (EN)

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 Causes skin irritation.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P264 Wash skin thoroughly after handling.P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

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

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

attention.

P362 + P364 Take off contaminated clothing and wash it

before reuse.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Hazardous components which must be listed on the label:

pentapotassium bis(peroxymonosulphate) bis(sulphate) Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts potassium hydrogensulphate dipotassium disulphate

#### **Additional Labelling**

EUH208 Contains dipotassium peroxodisulphate. May produce an allergic reaction.

#### 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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

# **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
pentapotassium bis(peroxymonosulphate) bis(sulphate)	70693-62-8 274-778-7 01-2119485567-22	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412 Acute toxicity estimate Acute oral toxicity: 500 mg/kg	>= 30 - < 50
malic acid	6915-15-7 230-022-8 01-2119906954-31	Eye Irrit. 2; H319	>= 20 - < 30
sulphamidic acid	5329-14-6 226-218-8 016-026-00-0 01-2119488633-28	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 3; H412	>= 2,5 - < 10
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	68411-30-3 270-115-0 01-2119489428-22	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412 Acute toxicity estimate Acute oral toxicity: 1.080 mg/kg	>= 3 - < 10
potassium hydrogensulphate	7646-93-7 231-594-1 016-056-00-4	Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system)	>= 1 - < 3

Print Date: 21.02.2023

LANXESS Group

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

dipotassium disulphate	7790-62-7 232-216-8	Acute Tox. 3; H331 Skin Corr. 1A; H314 Eye Dam. 1; H318 EUH071	>= 1 - < 3
dipotassium peroxodisulphate	7727-21-1 231-781-8 016-061-00-1 01-2119495676-19	Ox. Sol. 3; H272 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system) Acute toxicity estimate  Acute oral toxicity: 700 mg/kg	>= 0,1 - < 1

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.

If inhaled : If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tis-

sue 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.



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do NOT induce vomiting.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.

Causes serious eye damage.

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 : In case of fire, use water spray (fog), foam or dry chemical.

Unsuitable extinguishing

media

Carbon dioxide (CO2) High volume water jet

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

Sulphur oxides

Metal oxides

Carbon dioxide (CO2) Carbon monoxide Nitrogen oxides (NOx) Halogenated compounds

5.3 Advice for firefighters

Special protective equipment:

for firefighters

Wear self-contained breathing apparatus for firefighting if nec-

essary.

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.

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

#### **SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Avoid dust formation. Avoid breathing dust.

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.

Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of respirable particles.

Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8.

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

plication area.

Dispose of rinse water in accordance with local and national

regulations.

Protect from moisture.

Advice on protection against :

fire and explosion

Avoid dust formation. Provide appropriate exhaust ventilation

at places where dust is formed.

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

: Protect from moisture. Keep away from: Combustible sub-

stances Strong bases

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. Electrical installa-

6/28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

tions / working materials must comply with the technological

safety standards.

Advice on common storage : Keep away from alkalis.

Further information on stor-

n stor- : Keep in a dry place.

age stability

Stable under recommended storage conditions.

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	Control parameters	Basis
		of exposure)		
dipotassium	7727-21-1	TWA	2 mg/m3	IS OEL
peroxodisulphate			_	

### 8.2 Exposure controls

#### **Engineering measures**

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Personal protective equipment

Eye protection : Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Hand protection

Material : Butyl rubber - IIR

Wearing time : < 60 min

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations

Skin and body protection : Dust impervious protective suit

Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

Respiratory protection : In the case of dust or aerosol formation use respirator with an

7 / 28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

approved filter.

Filter type : Recommended Filter type:

ABEK-P2-filter

# **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

Appearance : tablet

Physical state : solid

Colour : pink

Odour : odourless

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Flash point : No data available

Decomposition temperature : No data available

pH : 2,6 - 3,2

Concentration: 10 %

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : 65 g/l

Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Vapour pressure : No data available

Relative density : No data available

Density : No data available

Particle characteristics

Particle Size Distribution : No data available

9.2 Other information

Explosives : No data available

Oxidizing properties : The product has been shown not to be oxidizing in a test fol-

lowing Directive 67/548/EEC (Method A17, Oxidizing proper-

ties).

Method: Regulation (EC) No. 440/2008, Annex, A.17

Flammable solids

Burning number : No data available

Self-ignition : No data available

Evaporation rate : No data available

Miscibility with water : No data available

### **SECTION 10: Stability and reactivity**

## 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

#### 10.2 Chemical stability

Stable under normal conditions.

# 10.3 Possibility of hazardous reactions

Hazardous reactions : Under normal conditions of storage and use, hazardous reac-

tions will not occur.

Stable under recommended storage conditions.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture

10.5 Incompatible materials

Materials to avoid : Strong bases

9/28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Combustible substances

#### 10.6 Hazardous decomposition products

Hazardous decomposition : Chlorine

products Sulphur oxides

Hypochlorites

## **SECTION 11: Toxicological information**

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### **Acute toxicity**

Not classified based on available information.

**Product:** 

Acute oral toxicity : LD50 (Rat, male and female): 4.123 mg/kg

Method: OECD Test Guideline 401

GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: the particle size measurements of the product indicate that it is not respirable and therefore not bioavailable by

the inhalation route.

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

Remarks: Extrapolation according to Regulation (EC) No.

440/2008

# **Components:**

#### pentapotassium bis(peroxymonosulphate) bis(sulphate):

Acute oral toxicity : LD50 (Rat, male and female): 500 mg/kg

Method: OECD Test Guideline 423

Acute inhalation toxicity : LC0 (Rat, male): > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Highest producible concentration.

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

Method: OECD Test Guideline 402



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 09.03.2021

 2.0
 04.04.2022
 203000008840
 Country / Language: IS / 6N (EN)

Remarks: Extrapolation according to Regulation (EC) No.

440/2008

malic acid:

Acute oral toxicity : LD50 (Rat, male and female): 3.500 mg/kg

Method: OECD Test Guideline 401

GLP: no

Acute inhalation toxicity : LC0 (Rat, male and female): > 1,306 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Remarks: Highest producible concentration.

Acute dermal toxicity : LD50 (Rabbit, female): > 5.000 mg/kg

Method: OECD Test Guideline 401

GLP: no

sulphamidic acid:

Acute oral toxicity : LD50 (Rat, female): 2.140 mg/kg

Method: OECD Test Guideline 401

GLP: yes

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Acute oral toxicity : LD50 (Rat, male and female): 1.080 mg/kg

Method: OECD Test Guideline 401

GLP: no

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Dosage caused no mortality

potassium hydrogensulphate:

Acute oral toxicity : LD50 (Rat): 2.340 mg/kg

dipotassium disulphate:

Acute oral toxicity : LD50 (Rat, male): 2.140 mg/kg

Method: OECD Test Guideline 401



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Remarks: Test results on an analogous product

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

Assessment: The component/mixture is toxic after short term

inhalation.

dipotassium peroxodisulphate:

Acute oral toxicity : LD50 (Rat): 700 mg/kg

Acute inhalation toxicity : LC0 (Rat): > 2,95 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Remarks: Highest producible concentration.

Acute dermal toxicity : LD50 (Rabbit): > 10.000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

**Product:** 

Species : Rabbit

Method : OECD Test Guideline 404

Result : Irritating to skin.

**Components:** 

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rabbit

Method : OECD Test Guideline 404

Result : Causes burns.

malic acid:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

sulphamidic acid:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Irritating to skin.

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Irritating to skin.

GLP : no

12 / 28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

potassium hydrogensulphate:

Assessment : Causes burns.

dipotassium disulphate:

Assessment : Causes severe burns.

dipotassium peroxodisulphate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

**Components:** 

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rabbit

Method : OECD Test Guideline 405
Result : Risk of serious damage to eyes.

malic acid:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritating to eyes.

sulphamidic acid:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritating to eyes.

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Species : Rabbit

Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

GLP : yes

dipotassium disulphate:

Assessment : Risk of serious damage to eyes.

dipotassium peroxodisulphate:

Result : Irritating to eyes.

13 / 28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 09.03.2021

 2.0
 04.04.2022
 203000008840
 Country / Language: IS / 6N (EN)

#### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

### Respiratory sensitisation

Not classified based on available information.

**Product:** 

Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : Did not cause sensitisation on laboratory animals.

Exposure routes : Inhalation

Species : Mammal - species unspecified

Method : Expert judgement

Result : Does not cause respiratory sensitisation.

#### **Components:**

# pentapotassium bis(peroxymonosulphate) bis(sulphate):

Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

malic acid:

Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : Did not cause sensitisation on laboratory animals.

GLP : yes

sulphamidic acid:

Result : Did not cause sensitisation on laboratory animals.

# Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

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

Method : OECD Test Guideline 406

Result : Did not cause sensitisation on laboratory animals.

GLP : yes

#### dipotassium peroxodisulphate:



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Exposure routes : Inhalation

Species : Mammal - species unspecified

Result : May cause sensitisation by inhalation.

Exposure routes : Skin contact Species : Mouse

Method : OECD Test Guideline 429

Result : May cause sensitisation by skin contact.

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

#### pentapotassium bis(peroxymonosulphate) bis(sulphate):

Genotoxicity in vitro : Test system: Mammalian-Animal

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: positive GLP: yes

Test system: Bacteria

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: yes

Test system: Mammalian-Human

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: positive GLP: yes

Genotoxicity in vivo : Species: Mammalian-Animal

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

malic acid:

Print Date: 21.02.2023

Genotoxicity in vitro : Remarks: Not mutagenic in a standard battery of genetic toxi-

cological tests.

sulphamidic acid:

Genotoxicity in vitro : Test system: Mammalian-Human

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative GLP: yes

15 / 28

A company of the LANXESS

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Test system: Mammalian-Animal

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test system: Bacteria

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

#### Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Genotoxicity in vitro : Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative GLP: yes

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 473

Result: negative

GLP: yes

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Metabolic activation: with metabolic activation

Method: OECD Test Guideline 473

Result: positive GLP: yes

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

GLP: yes

Genotoxicity in vivo : Test Type: Cytogenetic assay

Species: Mouse (male) Cell type: Bone marrow Application Route: Oral

Result: negative

GLP: no

Test Type: dominant lethal test

Species: Mouse (male) Application Route: Oral

Result: negative



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

GLP: no

dipotassium peroxodisulphate:

Genotoxicity in vitro : Remarks: Not mutagenic in a standard battery of genetic toxi-

cological tests.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

**Components:** 

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Effects on foetal development Remarks: No teratogenic or foetotoxic effects were found at all

dose levels tested.

malic acid:

Effects on foetal develop-

ment

Remarks: No known significant effects or critical hazards.

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Effects on fertility : Test Type: Three-generation study

Species: Rat, male and female

Application Route: Oral

Dose: 0 - 14 - 70 milligram per kilogram

General Toxicity - Parent: NOAEL: 350 mg/kg body weight General Toxicity F1: NOAEL: 350 mg/kg body weight General Toxicity F2: NOAEL: 350 mg/kg body weight

Fertility: NOAEL: 350 mg/kg body weight

Result: Animal testing did not show any effects on fertility.

GLP: no

Remarks: Test results on an analogous product

Effects on foetal develop-

ment

Species: Rat, female Application Route: Oral

General Toxicity Maternal: NOAEL: 300 mg/kg body weight

Teratogenicity: NOAEL: 300 mg/kg body weight

Result: No teratogenic effects

GLP: no

Remarks: Test results on an analogous product

STOT - single exposure

Not classified based on available information.

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

### **Components:**

### potassium hydrogensulphate:

Assessment : May cause respiratory irritation.

#### dipotassium peroxodisulphate:

Assessment : May cause respiratory irritation.

#### STOT - repeated exposure

Not classified based on available information.

#### Repeated dose toxicity

#### Components:

## pentapotassium bis(peroxymonosulphate) bis(sulphate):

Species : Rat, male and female

LOAEL : > 1.000 mg/kg

Application Route : Oral Exposure time : 28 d

Number of exposures : 7 days/week

Method : OECD Test Guideline 407

Remarks : Subacute toxicity

Species : Rat, male and female

LOAEL : 600 mg/kg Application Route : Oral Exposure time : 90 d

Number of exposures : 7 days/week

Method : OECD Test Guideline 408
Remarks : Subchronic toxicity

malic acid:

Remarks : No known significant effects or critical hazards.

#### Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Species : Rat, male and female

NOAEL : 85 mg/kg
LOAEL : 145 mg/kg
Application Route : Oral
Exposure time : 36 w
Number of exposures : daily
GLP : no

Remarks : Subchronic toxicity

#### **Aspiration toxicity**

Not classified based on available information.

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# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

#### 11.2 Information on other hazards

### **Endocrine disrupting properties**

**Product:** 

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

**Further information** 

**Product:** 

Remarks : No data available

#### **SECTION 12: Ecological information**

#### 12.1 Toxicity

**Product:** 

Toxicity to fish : LC50 (Salmo salar (Atlantic salmon)): 24,6 mg/l

Exposure time: 96 h

Method: Regulation (EC) No. 440/2008, Annex, C.1

Remarks: Fresh water

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 6,5 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Fresh water

Toxicity to algae/aquatic

plants

NOEC (Desmodesmus subspicatus (green algae)): 6,25 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Fresh water

#### **Components:**

#### pentapotassium bis(peroxymonosulphate) bis(sulphate):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 53 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

GLP: yes

Remarks: Fresh water

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 3,5 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 09.03.2021

 2.0
 04.04.2022
 203000008840
 Country / Language: IS / 6N (EN)

GLP: yes

Remarks: Fresh water

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (microalgae)): > 1 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Fresh water

NOEC (Pseudokirchneriella subcapitata (microalgae)): 0,5

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Fresh water

malic acid:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

GLP: yes

Remarks: Fresh water

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 240 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

GLP: yes

Remarks: Fresh water

Toxicity to algae/aquatic

plants

EC50 (algae): > 100 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Fresh water

NOEC (algae): 100 mg/l Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Fresh water

sulphamidic acid:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 70,3 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

GLP: no

Remarks: Fresh water

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 71,6 mg/l

according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

aguatic invertebrates Exposure time: 48 h

Method: OECD Test Guideline 202

GLP: yes

Remarks: Fresh water

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): 48 mg/l

End point: Growth rate Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Fresh water

NOEC (Desmodesmus subspicatus (green algae)): 18 mg/l

End point: Growth rate Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: Fresh water

Toxicity to microorganisms : EC50 : > 200 mg/l

End point: Respiration inhibition

Exposure time: 3 h

Method: OECD Test Guideline 209

GLP: yes

Remarks: Fresh water

Toxicity to fish (Chronic tox-

icity)

NOEC: >= 60 mg/l Exposure time: 34 d

Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 19 mg/l Exposure time: 21 d

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

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2,88 mg/l

Exposure time: 96 h Analytical monitoring: yes

Method: OECD Test Guideline 203

GLP: no

Remarks: Fresh water

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 2,9 mg/l

Exposure time: 48 h

Analytical monitoring: yes

Method: OECD Test Guideline 202

GLP: yes

Remarks: Fresh water

21 / 28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 09.03.2021

 2.0
 04.04.2022
 203000008840
 Country / Language: IS / 6N (EN)

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 235

mg/l

Exposure time: 72 h Analytical monitoring: no

Method: OECD Test Guideline 201

GLP: no

Remarks: Fresh water

EC10 (Pseudokirchneriella subcapitata (green algae)): 13,1

mg/l

Exposure time: 72 h Analytical monitoring: no

Method: OECD Test Guideline 201

GLP: no

Remarks: Fresh water

Toxicity to fish (Chronic tox-

icity)

NOEC: 0,23 mg/l Exposure time: 72 d

Species: Oncorhynchus mykiss (rainbow trout)

Analytical monitoring: yes

Method: OECD Test Guideline 210

GLP: no

Remarks: Fresh water

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 1,18 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Analytical monitoring: yes

Method: OECD Test Guideline 211

GLP: no

Remarks: Fresh water

dipotassium disulphate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 680 mg/l

Exposure time: 96 h Remarks: Fresh water

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 720 mg/l

Exposure time: 48 h Remarks: Fresh water

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (microalgae)): 1.492

mg/l

Exposure time: 96 h Remarks: Fresh water

EC10 (Pseudokirchneriella subcapitata (microalgae)): 656

mg/l

Exposure time: 96 h



according to Regulation (EC) No. 1907/2006



# RELYON VIRKON TABLETS

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Remarks: Fresh water

Toxicity to fish (Chronic tox-

icity)

NOEC: > 595 mg/l Exposure time: 7 Days

Species: Pimephales promelas (fathead minnow)

Remarks: Fresh water

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 790 mg/l Exposure time: 7 Days

Species: Ceriodaphnia dubia (Water flea)

Remarks: Fresh water

dipotassium peroxodisulphate:

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): 76,3 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 120 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (microalgae)): 83,7

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

**Ecotoxicology Assessment** 

Chronic aquatic toxicity This product has no known ecotoxicological effects.

#### 12.2 Persistence and degradability

### **Components:**

#### pentapotassium bis(peroxymonosulphate) bis(sulphate):

Biodegradability Result: The methods for determining the biological degradabil-

ity are not applicable to inorganic substances.

malic acid:

Biodegradability Test Type: aerobic

> Result: Readily biodegradable. Biodegradation: 67,5 % Exposure time: 28 d

Method: OECD Test Guideline 301B

GLP: yes

sulphamidic acid:

Biodegradability Result: The methods for determining the biological degradabil-

ity are not applicable to inorganic substances.



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 83 % Exposure time: 28 d

Method: OECD Test Guideline 301B

GLP: yes

dipotassium disulphate:

Biodegradability : Result: The methods for determining the biological degradabil-

ity are not applicable to inorganic substances.

dipotassium peroxodisulphate:

Biodegradability : Result: The methods for determining the biological degradabil-

ity are not applicable to inorganic substances.

12.3 Bioaccumulative potential

**Components:** 

pentapotassium bis(peroxymonosulphate) bis(sulphate):

Partition coefficient: n- : log Pow: < 0,3

octanol/water Method: OECD Test Guideline 117

malic acid:

Partition coefficient: n-

octanol/water

log Pow: -1,26

sulphamidic acid:

Partition coefficient: n-

octanol/water

log Pow: -4,34

Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts:

Partition coefficient: n- : log Pow: 1,4 (23 °C)

octanol/water Method: OECD Test Guideline 123

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..



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

#### 12.6 Endocrine disrupting properties

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

No data available

#### 12.7 Other adverse effects

#### **Product:**

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

#### **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.

Dispose of as unused product. Do not re-use empty containers.

#### **SECTION 14: Transport information**

#### 14.1 UN number or ID number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

#### 14.6 Special precautions for user

according to Regulation (EC) No. 1907/2006



# RELYON VIRKON TABLETS

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Hazard and Handling Notes. : Not dangerous cargo.

Keep dry.

Risk of serious damage to eyes.

Keep away from foodstuffs, acids and alkalis.

#### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### **SECTION 15: Regulatory information**

# 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on

the market and use of certain dangerous substances,

mixtures and articles (Annex XVII)

International Chemical Weapons Convention (CWC)

Schedules of Toxic Chemicals and Precursors

REACH - Restrictions on the manufacture, placing on

the market and use of certain dangerous substances,

mixtures and articles (Annex XVII)

: Not applicable

Not applicable

Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

#### 15.2 Chemical safety assessment

not applicable

# **SECTION 16: Other information**

#### **Full text of H-Statements**

H272 : May intensify fire; oxidizer. H302 : Harmful if swallowed.

H314 : Causes severe skin burns and eye damage.

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

H331 : Toxic if inhaled.

H334 : May cause allergy or asthma symptoms or breathing difficul-

ties if inhaled.

H335 : May cause respiratory irritation.

H412 : Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity

26 / 28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation
Ox. Sol. : Oxidizing solids

Resp. Sens. : Respiratory sensitisation

Skin Corr. : Skin corrosion
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

STOT SE : Specific target organ toxicity - single exposure IS OEL : Iceland. Regulation on occupational exposure limits.

IS OEL / TWA : Long term exposure limit

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

#### Classification of the mixture: Classification procedure:

Skin Irrit. 2 H315 Based on product data or assessment

Eye Dam. 1 H318 Calculation method Aquatic Chronic 3 H412 Calculation method

27 / 28



according to Regulation (EC) No. 1907/2006



# **RELYON VIRKON TABLETS**

Version Revision Date: SDS Number: Date of last issue: 09.03.2021 2.0 04.04.2022 203000008840 Country / Language: IS / 6N (EN)

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered to be a guidance for processing and does not contain any warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

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