

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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

#### 1.1 Product identifier

**Product name** RATIO® SX®

#### Other means of identification

**Product code** 50000941

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

Use of the Sub- : Herbicide  
stance/Mixture

Recommended restrictions : Use as recommended by the label.  
on use

#### 1.3 Details of the supplier of the safety data sheet

##### 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

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### 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)**

Specific target organ toxicity - repeated H373: May cause damage to organs through pro-

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

exposure, Category 2

longed or repeated exposure.

Short-term (acute) aquatic hazard, Category 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

Hazard pictograms

:



Signal word

:

Warning

Hazard statements

:

H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

:

#### **Prevention:**

P260 Do not breathe dust or spray.  
P273 Avoid release to the environment.

#### **Response:**

P314 Get medical advice/ attention if you feel unwell.  
P391 Collect spillage.

#### **Disposal:**

P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

Hazardous components which must be listed on the label:

tribenuron-methyl (ISO)

#### **Additional Labelling**

EUH208 Contains tribenuron-methyl (ISO). May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

For special phrases (SP) and safety intervals, consult the label.

# SAFETY DATA SHEET

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



## RATIO® SX®

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1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

### 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
thifensulfuron-methyl (ISO)	79277-27-3  016-096-00-2	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	> 30 - <= 40
sodium carbonate	497-19-8 207-838-8 011-005-00-2	Eye Irrit. 2; H319	>= 10 - < 20
tribenuron-methyl (ISO)	101200-48-0 401-190-1 607-177-00-9	Skin Sens. 1; H317 STOT RE 2; H373 (Thyroid, Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	> 5 - <= 10
Phosphoric acid, trisodium salt, do- decahydrate	10101-89-0	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory sys-	>= 1 - < 10

# SAFETY DATA SHEET

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



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Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
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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             | : Move out of dangerous area.<br>Show this safety data sheet to the doctor in attendance.<br>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<br>Avoid inhalation, ingestion and contact with skin and eyes.<br>If potential for exposure exists refer to Section 8 for specific personal protective equipment.  |
| If inhaled                 | : Remove to fresh air.<br>If unconscious, place in recovery position and seek medical advice.<br>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    | : If on clothes, remove clothes.<br>If on skin, rinse well with water.<br>Wash off with soap and plenty of water.<br>Get medical attention immediately if irritation develops and persists.   |
| In case of eye contact     | : Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.   |
| If swallowed               | : Clean mouth with water and drink afterwards plenty of water.<br>Do not induce vomiting without medical advice.<br>Keep respiratory tract clear.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.   |

#### 4.2 Most important symptoms and effects, both acute and delayed

- |          |                       |
|----------|-----------------------|
| Symptoms | : Possibly irritation |
|----------|-----------------------|

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UK REACH Regulations SI 2019/758



## RATIO® SX®

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1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

Risks : May cause damage to organs through prolonged or repeated exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.  
Immediate medical attention is required in case of ingestion.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, 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.  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides  
Carbon oxides  
Hydrogen cyanide  
Oxides of phosphorus

### 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.

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## SECTION 6: Accidental release measures

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

Personal precautions : Evacuate personnel to safe areas.  
Do not touch or walk through the spilled material.  
If it can be safely done, stop the leak.  
Ensure adequate ventilation.  
Use personal protective equipment.  
Avoid dust formation.

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1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

Avoid breathing dust.  
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.

### 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 : Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

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

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## 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 exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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 : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

safety standards.

Further information on storage conditions : The product is stable under normal conditions of warehouse storage. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
Phosphoric acid, trisodium salt, dodecahydrate	Workers	Inhalation	Long-term systemic effects	4.07 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	3.04 mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
Phosphoric acid, trisodium salt, dodecahydrate	Sewage treatment plant	50 mg/l

### 8.2 Exposure controls

#### Personal protective equipment

Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Hand protection  
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	: Dust impervious protective suit Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Equipment should conform to EN 143
Filter type	: Particulates type (P)
Protective measures	: Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Wear suitable protective equipment. When using do not eat, drink or smoke.  In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	: solid
Form	: granular
Colour	: light brown
Odour	: slight
pH	: 8.6 (20 °C) Concentration: 10 g/l 1 % Method: CIPAC MT 75
Melting point/freezing point	: Not available for this mixture.
Boiling point/boiling range	: Decomposition
Flash point	: Not applicable
Flammability (solid, gas)	: Not highly flammable, may be ignitable
Upper explosion limit / Upper flammability limit	: Not available for this mixture.
Lower explosion limit / Lower flammability limit	: Not available for this mixture.
Vapour pressure	: Not available for this mixture.
Relative vapour density	: Not applicable
Relative density	:



# SAFETY DATA SHEET

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UK REACH Regulations SI 2019/758



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

Density	:	No data available
Bulk density	:	688 kg/m <sup>3</sup> packed
Solubility(ies)	:	
Water solubility	:	soluble
Solubility in other solvents	:	Not available for this mixture.
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	Not available for this mixture.
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The product is not oxidizing.

### 9.2 Other information

Minimum ignition energy	:	> 1,000 mJ
Particle size	:	No data available
Particle Size Distribution	:	No data available
Self-ignition	:	Not available for this mixture.

## 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.
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Dust may form explosive mixture in air.

### 10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks. Heating of the mixture may evolve harmful and irritant vapours.
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### 10.5 Incompatible materials

Materials to avoid	:	Avoid strong acids, bases, and oxidizers
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### 10.6 Hazardous decomposition products

Stable under recommended storage conditions.

# SAFETY DATA SHEET

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1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

### 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       | : | LD50 (Rat, female): > 5,000 mg/kg<br>Method: Fixed Dose Method<br>GLP: yes<br>Remarks: Information given is based on data obtained from similar product.<br>Information source: Internal study report |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.0 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist  |
| Acute dermal toxicity     | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 402<br>GLP: yes<br>Remarks: Information given is based on data obtained from similar product.<br>Information source: Internal study report   |

##### Components:

##### **thifensulfuron-methyl (ISO):**

- |                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat): > 5,000 mg/kg  |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.03 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403 |
| Acute dermal toxicity     | : | LD50 (Rat): > 2,000 mg/kg  |

##### **sodium carbonate:**

- |                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat, male and female): 2,800 mg/kg                                       |
| Acute inhalation toxicity | : | LC50 (Rat, male): 2.3 mg/l<br>Exposure time: 2 h<br>Test atmosphere: dust/mist |
| Acute dermal toxicity     | : | LD50 (Rabbit): > 2,000 mg/kg<br>Target Organs: Skin<br>Symptoms: Erythema      |

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

### tribenuron-methyl (ISO):

Acute oral toxicity	: LD50: > 5,000 mg/kg Method: OECD Test Guideline 425
Acute inhalation toxicity	: LC50 (Rat): > 5.14 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 402

### Phosphoric acid, trisodium salt, dodecahydrate:

Acute oral toxicity	: LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420 Remarks: no mortality
Acute inhalation toxicity	: LC50 (Rat, male and female): > 0.83 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials no mortality
Acute dermal toxicity	: LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 Remarks: Based on data from similar materials no mortality

### Skin corrosion/irritation

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

### Product:

Species	: Rabbit
Exposure time	: 72 h
Assessment	: Not classified as irritant
Method	: OECD Test Guideline 404
Result	: No skin irritation
GLP	: yes
Remarks	: Information given is based on data obtained from similar product. Information source: Internal study report

### Components:

#### thifensulfuron-methyl (ISO):

Species	: Rabbit
Method	: OECD Test Guideline 404

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

Result : No skin irritation  
Remarks : Minimal effects that do not meet the threshold for classification.

### **sodium carbonate:**

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : No skin irritation

### **tribenuron-methyl (ISO):**

Species : Rabbit  
Assessment : Not classified as irritant  
Method : OECD Test Guideline 404  
Remarks : May cause mild irritation.  
Based on available data, the classification criteria are not met.

### **Phosphoric acid, trisodium salt, dodecahydrate:**

Species : Rabbit  
Result : Skin irritation

### **Serious eye damage/eye irritation**

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

### **Product:**

Species : Rabbit  
Exposure time : 72 h  
Assessment : Not classified as irritant  
Method : OECD Test Guideline 405  
Result : No eye irritation  
GLP : yes  
Remarks : Information given is based on data obtained from similar product.  
Information source: Internal study report

### **Components:**

#### **thifensulfuron-methyl (ISO):**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation

#### **sodium carbonate:**

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days

#### **tribenuron-methyl (ISO):**

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	May cause mild irritation. Based on available data, the classification criteria are not met.

### Phosphoric acid, trisodium salt, dodecahydrate:

Species	:	Rabbit
Method	:	EPA OTS 798.4500
Result	:	Irritation to eyes, reversing within 21 days

### 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:

Test Type	:	Local lymph node test
Species	:	Mouse
Assessment	:	Not a skin sensitizer.
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.
Remarks	:	Information source: Internal study report

#### Components:

##### thifensulfuron-methyl (ISO):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

##### tribenuron-methyl (ISO):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	May cause sensitisation by skin contact.
Method	:	OECD Test Guideline 406
Result	:	Causes skin sensitization.

### Phosphoric acid, trisodium salt, dodecahydrate:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.
Remarks	:	Based on data from similar materials

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

### Germ cell mutagenicity

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

#### Components:

##### **thifensulfuron-methyl (ISO):**

Genotoxicity in vitro : Test system: Chinese hamster ovary cells  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: In vitro tests did not show mutagenic effects

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

##### **sodium carbonate:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)  
Result: negative  
Remarks: Based on data from similar materials

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

##### **tribenuron-methyl (ISO):**

Germ cell mutagenicity- Assessment : Did not show mutagenic effects in animal experiments.

##### **Phosphoric acid, trisodium salt, dodecahydrate:**

Genotoxicity in vitro : Test Type: gene mutation test  
Method: OECD Test Guideline 490  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Micronucleus test  
Method: OECD Test Guideline 487  
Result: negative

Germ cell mutagenicity- Assessment : In vitro tests did not show mutagenic effects

### Carcinogenicity

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

#### Components:

##### **thifensulfuron-methyl (ISO):**

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

# SAFETY DATA SHEET

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



## RATIO® SX®

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1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

### tribenuron-methyl (ISO):

Remarks : No significant adverse effects were reported

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

### Reproductive toxicity

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

### Components:

#### thifensulfuron-methyl (ISO):

Reproductive toxicity - Assessment : Did not show teratogenic effects in animal experiments.

#### sodium carbonate:

Effects on foetal development : Species: Rat  
Application Route: Oral  
Dose: 2.45, 11.4, 52.9, 245 milligram per kilogram  
Duration of Single Treatment: 6 - 15 d  
General Toxicity Maternal: NOAEL: > 245 mg/kg body weight  
Teratogenicity: NOAEL: > 245 mg/kg body weight  
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

#### tribenuron-methyl (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction  
Animal testing did not show any effects on foetal development., Did not show teratogenic effects in animal experiments.

#### Phosphoric acid, trisodium salt, dodecahydrate:

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
Dose: 1000 mg/kg bw/day  
General Toxicity - Parent: NOAEL: 1,000 mg/kg bw/day  
General Toxicity F1: NOAEL: 1,000 mg/kg bw/day  
Method: OECD Test Guideline 422  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: reproductive and developmental toxicity study  
Species: Rat  
Application Route: Oral  
Dose: 4.1, 19, 88.3, 410 mg/kg bw/day  
Duration of Single Treatment: 20 d

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

General Toxicity Maternal: NOAEL: > 410 mg/kg bw/day  
Embryo-foetal toxicity: NOAEL: > 410 mg/kg bw/day  
Result: negative  
Remarks: Based on data from similar materials

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:

##### **tribenuron-methyl (ISO):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

##### **Phosphoric acid, trisodium salt, dodecahydrate:**

Assessment : May cause respiratory irritation.

### STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

#### Product:

Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

#### Components:

##### **sodium carbonate:**

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

##### **tribenuron-methyl (ISO):**

Target Organs : Thyroid, Nervous system  
Assessment : May cause damage to organs through prolonged or repeated exposure.

### Repeated dose toxicity

#### Components:

##### **thifensulfuron-methyl (ISO):**

Species : Rat  
LOAEL : ca. 200 mg/kg  
Exposure time : 90 d  
Target Organs : No specific target organs noted  
Symptoms : Reduced body weight



# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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### sodium carbonate:

Species	: Rat, male and female
NOAEL	: > 0.01 mg/kg
Application Route	: inhalation (dust/mist/fume)
Test atmosphere	: dust/mist

### tribenuron-methyl (ISO):

Species	: Rabbit
LOAEL	: 80 mg/kg
Target Organs	: Thyroid, Nervous system
Assessment	: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
Remarks	: Increased mortality or reduced survival

### Phosphoric acid, trisodium salt, dodecahydrate:

Species	: Dog, female
NOAEL	: 492.77 mg/kg bw/day
LOAEL	: 1433.56 mg/kg bw/day
Application Route	: Oral - feed
Exposure time	: 90 d
Dose	: 129.31, 492.77, 1433.56 mg/kg bw/day
Target Organs	: Kidney
Remarks	: Based on data from similar materials

Species	: Dog, male
NOAEL	: 322.88 mg/kg bw/day
LOAEL	: 1107.12 mg/kg bw/day
Application Route	: Oral - feed
Exposure time	: 90 d
Dose	: 94.23, 322.88, 1107.12 mg/kg bw/day
Target Organs	: Kidney
Remarks	: Based on data from similar materials

### Aspiration toxicity

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

#### Product:

The mixture does not have properties associated with aspiration hazard potential.

#### Components:

#### tribenuron-methyl (ISO):

The substance does not have properties associated with aspiration hazard potential.

### Further information

#### Product:

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

Remarks : No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### **thifensulfuron-methyl (ISO):**

Toxicity to fish	:	LC50 (Salmo gairdneri): 100 mg/l Exposure time: 96 h  LC50 (Oncorhynchus mykiss (rainbow trout)): > 250 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	:	IC50 (green algae): 0.0159 mg/l Exposure time: 72 h  ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.4 mg/l Exposure time: 72 h  EC50 (Lemna minor (duckweed)): 1.3 µg/l
M-Factor (Acute aquatic toxicity)	:	100
Toxicity to fish (Chronic toxicity)	:	NOEC: 250 mg/l Exposure time: 28 d Species: Salmo gairdneri  NOEC: 10.6 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 100 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	100
Toxicity to soil dwelling organisms	:	LC50: > 2,000 mg/kg Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 2,510 mg/kg Species: Anas platyrhynchos (Mallard duck)

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

LD50: > 5,620 ppm  
Species: *Anas platyrhynchos* (Mallard duck)  
Remarks: Dietary

LD50: > 5,620 ppm  
Species: *Colinus virginianus* (Bobwhite quail)

LD50: > 7.1 µg/bee  
End point: Acute oral toxicity  
Species: *Apis mellifera* (bees)

LD50: > 100 µg/bee  
End point: Acute contact toxicity  
Species: *Apis mellifera* (bees)

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### sodium carbonate:

Toxicity to fish : LC50 (*Lepomis macrochirus* (Bluegill sunfish)): 300 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Ceriodaphnia* (water flea)): 200 mg/l  
Exposure time: 48 h  
Test Type: semi-static test

### tribenuron-methyl (ISO):

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 738 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Crustaceans): > 320 mg/l  
Exposure time: 48 h

EC50 (*Daphnia magna* (Water flea)): > 894 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 0.068 mg/l  
Exposure time: 72 h

ErC50 (*Lemna gibba* (duckweed)): 0.0047 mg/l  
Exposure time: 7 d

NOEC (*Lemna gibba* (duckweed)): 0.001 mg/l  
Exposure time: 7 d

M-Factor (Acute aquatic tox- : 100

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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Toxicity to fish (Chronic toxicity) : NOEC: 114 mg/l  
Exposure time: 21 d  
Species: Cyprinodon variegatus (sheepshead minnow)  
Method: OECD Test Guideline 211

NOEC: 560 mg/l  
Exposure time: 21 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 41 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : NOEC: 3.2 mg/kg  
Exposure time: 56 d  
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms : LD50: > 2,250 mg/kg  
Species: Colinus virginianus (Bobwhite quail)

LD50: > 5,620 ppm  
Species: Colinus virginianus (Bobwhite quail)  
Remarks: Dietary

LD50: > 5,620 ppm  
Species: Anas platyrhynchos (Mallard duck)  
Remarks: Dietary

LD50: > 98.4 µg/bee  
Exposure time: 48 h  
End point: Acute contact toxicity  
Species: Apis mellifera (bees)

LD50: > 9.1 µg/bee  
Exposure time: 48 h  
End point: Acute oral toxicity  
Species: Apis mellifera (bees)

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

### Phosphoric acid, trisodium salt, dodecahydrate:

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

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

---

		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)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: EU Method C3 Remarks: Based on data from similar materials
		NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: EU Method C3 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
		NOEC (activated sludge): 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to soil dwelling organisms	:	LC50: > 3,500 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 Remarks: Based on data from similar materials

### 12.2 Persistence and degradability

#### Product:

Biodegradability	:	Result: Not readily biodegradable. Remarks: Estimation based on data obtained on active ingredient.
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#### Components:

##### **thifensulfuron-methyl (ISO):**

Biodegradability	:	Remarks: Not readily biodegradable. Primary degradation half-lives vary with circumstances, from a few days to a few weeks in aerobic water and soil.
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##### **sodium carbonate:**

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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

### **tribenuron-methyl (ISO):**

Biodegradability : Result: Not readily biodegradable.  
Remarks: The product/substance is not persistent in the environment.  
Primary degradation half-lives vary with circumstances, from a few days to a few weeks in aerobic water and soil.  
Metabolites are considered as persistent.  
According to the results of tests of biodegradability this product is not readily biodegradable.

## 12.3 Bioaccumulative potential

### **Product:**

Bioaccumulation : Remarks: Does not bioaccumulate.  
Estimation based on data obtained on active ingredient.

### **Components:**

#### **thifensulfuron-methyl (ISO):**

Bioaccumulation : Bioconcentration factor (BCF): 1  
Remarks: Does not bioaccumulate.

#### **sodium carbonate:**

Bioaccumulation : Remarks: Does not bioaccumulate.

#### **tribenuron-methyl (ISO):**

Bioaccumulation : Bioconcentration factor (BCF): < 1  
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: -0.38

## 12.4 Mobility in soil

### **Product:**

Distribution among environmental compartments : Remarks: Under actual use conditions, there is no reasonable expectation of any movement of the product from the top soil layer.

### **Components:**

#### **thifensulfuron-methyl (ISO):**

Distribution among environmental compartments : Koc: 28.3, log Koc: 1.45  
Remarks: Highly mobile in soils

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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Stability in soil :

### tribenuron-methyl (ISO):

Distribution among environmental compartments : Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a potential for leaching to groundwater.

## 12.5 Results of PBT and vPvB assessment

### Product:

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

## 12.6 Other adverse effects

### Product:

Endocrine disrupting potential : 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.

Additional ecological information : See product label for additional application instructions relating to environmental precautions.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic 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 chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Do not re-use empty containers.  
Packaging that is not properly emptied must be disposed of as the unused product.  
Empty containers should be taken to an approved waste han-

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

ding site for recycling or disposal.

### SECTION 14: Transport information

#### 14.1 UN number

ADN	:	UN 3077
ADR	:	UN 3077
RID	:	UN 3077
IMDG	:	UN 3077
IATA	:	UN 3077

#### 14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron-methyl)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron-methyl)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron-methyl)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron-methyl)
IATA	:	Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron-methyl, Tribenuron-methyl)

#### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	:	9
ADR	:	9
RID	:	9
IMDG	:	9
IATA	:	9

#### 14.4 Packing group

ADN	:	
Packing group	:	III
Classification Code	:	M7
Hazard Identification Number	:	90
Labels	:	9



# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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### ADR

Packing group	: III
Classification Code	: M7
Hazard Identification Number	: 90
Labels	: 9
Tunnel restriction code	: (-)

### RID

Packing group	: III
Classification Code	: M7
Hazard Identification Number	: 90
Labels	: 9

### IMDG

Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F

### IATA (Cargo)

Packing instruction (cargo aircraft)	: 956
Packing instruction (LQ)	: Y956
Packing group	: III
Labels	: Miscellaneous

### IATA (Passenger)

Packing instruction (passenger aircraft)	: 956
Packing instruction (LQ)	: Y956
Packing group	: III
Labels	: Miscellaneous

## 14.5 Environmental hazards

### ADN

Environmentally hazardous	: yes
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### ADR

Environmentally hazardous	: yes
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### RID

Environmentally hazardous	: yes
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### IMDG

Marine pollutant	: yes
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### IATA (Passenger)

Environmentally hazardous	: yes
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### IATA (Cargo)

Environmentally hazardous	: yes
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## 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.

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

### 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 Alcohols, C10-16 (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 (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	:	Not applicable
Control of Major Accident Hazards Regulations 2015 (COMAH)	E1	ENVIRONMENTAL HAZARDS

#### 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:

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) require-

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

ments. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.

ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

### 15.2 Chemical safety assessment

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

## SECTION 16: Other information

### Full text of H-Statements

H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H319	: Causes serious eye irritation.
H335	: May cause respiratory irritation.
H373	: May cause damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure

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 - Emergen-

# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

cy 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

#### Classification of the mixture:

STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Based on product data or assessment
Calculation method
Calculation method

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# SAFETY DATA SHEET

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



## RATIO® SX®

Version	Revision Date:	SDS Number:	Date of last issue: 01.02.2018
1.2	10.03.2025	50000941	Date of first issue: 01.02.2018

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