

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Timac - TiZN  
Product code : TAUSA\_1.TIZNUS.0

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fertilisers  
Recommended use : agriculture

#### 1.3. Supplier

##### Manufacturer

Timac Agro USA, INC.  
Route 724 & I-176  
P.O. Box 888  
Reading, PA 19607 - USA  
T 1-800-545-5474  
[info-fds@roullier.com](mailto:info-fds@roullier.com)

#### 1.4. Emergency telephone number

Country	Organization/Company	Address	Emergency number	Comment
Americas	3E		+1-760-476-3962 (Access code : 333021)	(24/7)
USA	USA POISON CONTROL CENTER (24h/7d)		1-800-222-1222	

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (oral) Category 4 : H302 Harmful if swallowed  
Skin corrosion/irritation Category 2 : H315 Causes skin irritation  
Serious eye damage/eye irritation Category 1 : H318 Causes serious eye damage  
Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger  
Hazard statements (GHS US) : H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
Precautionary statements (GHS US) : P260 - Do not breathe vapors.  
P264 - Wash hands, forearms and face thoroughly after handling.

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P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective clothing, eye protection, face protection, protective gloves.  
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell.  
P302+P352 - If on skin: Wash with plenty of soap, soap and water.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P310 - Immediately call a doctor, a POISON CENTER.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Uronium hydrogen sulphate	CAS-No.: 21351-39-3	> 19,5 < 34,5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318
Zinc oxide	CAS-No.: 1314-13-2	> 11,5 < 16	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice. Prompt treatment is essential to minimize damage.  
First-aid measures after inhalation : Move to fresh air in case of accidental inhalation. Seek medical attention if ill effect develops.  
First-aid measures after skin contact : Wash with water and soap as a precaution. If case of redness or irritation, call a doctor.  
First-aid measures after eye contact : Wash immediately with plenty water (during 20 minutes), also under eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately, even if there are no immediate symptoms. If possible show him this sheet. Failing this, show him the packaging or label.  
First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting without medical advice. Seek medical attention if ill effect develops.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : see section(s) : 2.1/2.3).

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : water, carbon dioxide (CO<sub>2</sub>), powder and foam. Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

#### 5.2. Specific hazards arising from the chemical

- Fire hazard : Not flammable. Non oxidizing material according to EC criteria.
- Explosion hazard : No direct explosion hazard.
- Hazardous decomposition products in case of fire : Thermal decomposition generates : fume. Sulphur oxides. Nitrogen oxides. Carbon oxides (CO, CO<sub>2</sub>). Ammonia.

#### 5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Contain the extinguishing fluids by bunding.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Complete protective clothing. EN 469. Self-contained breathing apparatus.
- Other information : Relevant water authorities should be notified of any large spillage to water course or drain.

### SECTION 6: Accidental release measures

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

- General measures : Absorb spillage to prevent material-damage. Remove ignition sources. Evacuate area.

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate and limit access. Mark the danger area. Do not touch or walk on the spilled product. Avoid contact with skin, eyes and clothing. Only qualified personnel equipped with suitable protective equipment may intervene.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. acid-resistant protective clothing. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Ventilate area. Stop leak if safe to do so. Dike and contain spill.

#### 6.2. Environmental precautions

Prevent liquid from entering sewers, watercourses, underground or low areas. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Pump up the product into a suitably labeled spare container. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.
- Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Additional hazards when processed : May be corrosive to metals.

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Precautions for safe handling	: Provide good ventilation in process area to prevent formation of vapor. Do not breathe vapors. Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Do not handle until all safety precautions have been read and understood. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Reduce/avoid exposure and/or contact.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Separate working clothes from town clothes. Launder separately. Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: The floor of the depot should be impermeable and designed to form a water-tight basin. Store on an acid resistant underground. Comply with applicable regulations.
Storage conditions	: Protect from sunlight. Store in a well-ventilated place. Store closed containers with closure in upper position. Store locked up. Keep out of reach of children.
Incompatible products	: Refer to the detailed list of incompatible materials in section 10 Stability/Reactivity.
Incompatible materials	: Metals.
Maximum storage period	: > 1 year
Storage temperature	: 32 – 110 °F Store at ambient temperature. Protect from freezing.
Heat-ignition	: Keep away from open flames, hot surfaces and sources of ignition.
Information on mixed storage	: Keep away from food, drink and animal feeding stuffs.
Special rules on packaging	: Keep only in original container. Store in a closed container.
Packaging materials	: Do not store in corrodable metal. Store always product in container of same material as original container.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Timac - TiZN	
No additional information available	
Uronium hydrogen sulphate (21351-39-3)	
No additional information available	
Zinc oxide (1314-13-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Zinc oxide
ACGIH OEL TWA	2 mg/m <sup>3</sup> (R - Respirable particulate matter)
ACGIH OEL STEL	10 mg/m <sup>3</sup> (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Metal fume fever
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Zinc oxide
OSHA PEL (TWA) [1]	5 mg/m <sup>3</sup> (Fume) 15 mg/m <sup>3</sup> (Total dust) 5 mg/m <sup>3</sup> (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	5 dust

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### Zinc oxide (1314-13-2)

NIOSH REL (Ceiling) 15 mg/m<sup>3</sup> dust

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Local exhaust and general ventilation must be adequate to meet exposure standards.
- Environmental exposure controls : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Assure that emissions are compliant with all applicable air pollution control regulations. Comply with applicable regulations.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Since the product consists of several substances, the durability of the glove material cannot be estimated and needs to be tested before use

Type	Material	Permeation	Thickness (mm)	Penetration
Reusable gloves	butyl rubber, Nitrile rubber	6 (> 480 minutes)		

#### Eye protection:

Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product

Type	Field of application	Characteristics
Safety glasses, Face shield	Droplet	With side shields

#### Skin and body protection:

Skin protection appropriate to the conditions of use should be provided

#### Type

Chemical resistant apron

Boots

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition
Reusable half mask, Full face mask	ABEK-P3	vapor protection, Mist formation

#### Personal protective equipment symbol(s):



#### Other information:

See Heading 7 : 7.1. Precautions for safe handling.

## SECTION 9: Physical and chemical properties

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

- Physical state : Liquid
- Color : Colorless
- Odor : characteristic

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Odor threshold	: No data available
pH	: No data available
pH solution	: 1 (10% Water)
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 212 °F
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not established
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 10.28 lb/gal
Solubility	: Soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: Non oxidizing material.

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

### 10.3. Possibility of hazardous reactions

Contact with metals produces hydrogen gas which may form explosive mixtures with air.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

alkalis. Bases. Oxidizing agent. Reducing agents. Metals. Chlorates. Nitrates. copper. Zinc and its alloys.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. In case of fire: See Heading 5.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

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Additional information : No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation

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ATE US (oral)	1457.726 mg/kg body weight
Zinc oxide (1314-13-2)	
LD50 oral rat	> 5000 mg/kg (OECD 401 method)
LC50 Inhalation - Rat	> 5700 mg/m <sup>3</sup> (OECD 403 method)
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met) No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met) No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met) No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met) No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met) No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met. No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation)
Viscosity, kinematic	: No data available
Symptoms/effects	: see section(s) : 2.1/2.3).

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Do not allow into drains or water courses.  
Ecology - water : Toxic to aquatic life with long lasting effects

Uronium hydrogen sulphate (21351-39-3)	
NOEC (acute)	1000 mg/l 3h
Zinc oxide (1314-13-2)	
LC50 - Fish [1]	1.1 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout)
EC50 - Other aquatic organisms [1]	0.17 mg/l algae
NOEC (chronic)	0.017 mg/l algae

### 12.2. Persistence and degradability

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Persistence and degradability	Not established.

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Uronium hydrogen sulphate (21351-39-3)	
Persistence and degradability	Not established.

Zinc oxide (1314-13-2)	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

Timac - TiZN	
Bioaccumulative potential	Not established.

Uronium hydrogen sulphate (21351-39-3)	
Bioaccumulative potential	Not established.

Zinc oxide (1314-13-2)	
Partition coefficient n-octanol/water (Log Pow)	2.2
Bioaccumulative potential	Low bioaccumulation potential.

### 12.4. Mobility in soil

Zinc oxide (1314-13-2)	
Partition coefficient n-octanol/water (Log Koc)	2.2 (Published data)
Ecology - soil	Material nearly insoluble in water.

### 12.5. Other adverse effects

Other information : No other effects known.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste) : Disposal must be done according to official regulations.  
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Sewage disposal recommendations : Disposal must be done according to official regulations.  
Product/Packaging disposal recommendations : Discharging into rivers and drains is forbidden.  
Additional information : Do not re-use empty containers.

## SECTION 14: Transport information

In accordance with Département des transports / Transport des marchandises dangereuses (TMD) / IMDG / IATA

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable  
Proper Shipping Name (TDG) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable



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### 14.3. Transport hazard class(es)

#### DOT

Transport hazard class(es) (DOT) : Not applicable

#### TDG

Transport hazard class(es) (TDG) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

No data available

#### TDG

No data available

#### IMDG

No data available

#### IATA

No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Uronium hydrogen sulphate (21351-39-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Zinc oxide (1314-13-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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### 15.2. International regulations

#### CANADA

##### Uronium hydrogen sulphate (21351-39-3)

Listed on the Canadian DSL (Domestic Substances List)

##### Zinc oxide (1314-13-2)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

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Data sources : Safety Data Sheet Supplier.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of H-phrases	
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Abbreviations and acronyms	
CAS-No.	Chemical Abstract Service number
BLV	Biological limit value
EC50	Median effective concentration
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EN	European Standard
SDS	Safety Data Sheet
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
N.O.S.	Not Otherwise Specified

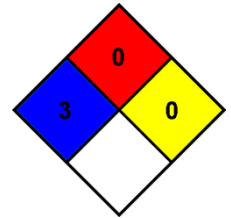
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Abbreviations and acronyms	
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
STP	Sewage treatment plant
OEL	Occupational Exposure Limit
IOELV	Indicative Occupational Exposure Limit Value
vPvB	Very Persistent and Very Bioaccumulative

- NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



- Hazard Rating Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability Physical : 0 Minimal Hazard - Materials that will not burn
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
- Personal protection : H
- : H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.