

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Trivictin

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

INNICTIS® BIOSCIENCE
PLANT HEALTH TECHNOLOGIES
P.O. Box 9296
Boise ID 83707
USA
T 855-466-8428

1.5. Emergency phone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 1B	H314	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Carcinogenicity, Category 2	H351	Suspected of causing cancer.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage
H351 - Suspected of causing cancer.
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dusts or mists.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.

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P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center or doctor.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P363 - Take off immediately all contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Dicyandiamide	CAS-No.: 461-58-5	1 – 20	Eye Irrit. 2B, H320 STOT SE 3, H335
N-(n-butyl)-thiophosphonic triamide	CAS-No.: 94317-64-3	1-5	Eye Irrit. 2A, H319 Skin Sens. 1B, H317 Repr. 2, H361 STOT SE 3, H335 STOT RE 2, H373

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

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders. : First aid workers will be equipped with suitable personal protective equipment.

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4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.
Environmental precautions	: Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

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For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
- Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
- Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

- Technical measures : Keep in a cool, well-ventilated place away from heat.
- Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Packaging materials : Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



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SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Mixture contains one or more component(s) which have the following color(s): Colorless Colourless to white
Odor	: Sulfur like odor Ammonia-like odor
Odor threshold	: No data available
pH	: 10 – 11
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 1.16
Density	: 9.6 lb/gal
Solubility	: No data available
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
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

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 normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

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

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : No data available
Acute toxicity (dermal) : No data available
Acute toxicity (inhalation) : No data available

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg Source: Nicnas
LC50 Inhalation - Rat (Dust/Mist)	> 2.2 mg/l Source: ECHA

Dicyandiamide (461-58-5)

LD50 oral rat	> 30000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 0.259 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

Skin corrosion/irritation : Causes severe skin burns.
pH: 10 – 11

Dicyandiamide (461-58-5)

pH	No data available in the literature
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Serious eye damage/irritation : Causes serious eye damage.
pH: 10 – 11

Dicyandiamide (461-58-5)

pH	No data available in the literature
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Respiratory or skin sensitization : No data available
Germ cell mutagenicity : No data available

Carcinogenicity : Suspected of causing cancer.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

NOAEL (animal/female, F0/P)	17 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
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STOT-single exposure : No data available

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

STOT-single exposure	May cause respiratory irritation.
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Dicyandiamide (461-58-5)

STOT-single exposure	May cause respiratory irritation.
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STOT-repeated exposure : No data available

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N-(n-butyl)-thiophosphonic triamide (94317-64-3)	
LOAEL (oral,rat,90 days)	17 mg/kg body weight Animal: rat, Animal sex: female, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
NOAEL (oral,rat,90 days)	74 mg/kg body weight Animal: rat, Animal sex: male, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : No data available

Dicyandiamide (461-58-5)	
Viscosity, kinematic	Not applicable (solid)

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : No data available

Hazardous to the aquatic environment, long-term (chronic) : No data available

N-(n-butyl)-thiophosphonic triamide (94317-64-3)	
LC50 - Fish [1]	1140 mg/l Source: NICNAS
EC50 - Crustacea [1]	290 mg/l Source: ECHA Chem
EC50 96h - Algae [1]	280 mg/l Source: NICNAS

Dicyandiamide (461-58-5)	
LC50 - Fish [1]	7700 ppm (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	3177 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)

12.2. Persistence and degradability

Trivictin	
Persistence and degradability	Rapidly degradable

N-(n-butyl)-thiophosphonic triamide (94317-64-3)	
Persistence and degradability	Not established.

Dicyandiamide (461-58-5)	
Persistence and degradability	Not readily biodegradable in water, Non degradable in the soil, Photodegradation in the air, Not established.

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12.3. Bioaccumulative potential

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

Partition coefficient n-octanol/water (Log Pow)	0.4444 Source: ECHA
Bioaccumulative potential	Not established.

Dicyandiamide (461-58-5)

Partition coefficient n-octanol/water (Log Pow)	-1 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

12.4. Mobility in soil

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

Mobility in soil	4.311 Source: EPISUITE
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Dicyandiamide (461-58-5)

Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.638 – 0.951 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone	: No data available
Fluorinated greenhouse gases	: No

SECTION 13 Disposal considerations

Regional waste regulation	: 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	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14 Transport information

14.1. UN number

UN-No. (DOT)	: UN3267
UN-No. (TDG)	: Not regulated
UN-No. (IMDG)	: 3267
UN-No. (IATA)	: 3267

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Corrosive liquid, basic, organic, n.o.s.
Proper Shipping Name (TDG)	: Not regulated
Proper Shipping Name (IMDG)	: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: Corrosive liquid, basic, organic, n.o.s.

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14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 8
Hazard labels (DOT) : 8



TDG

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

IMDG

Transport hazard class(es) (IMDG) : 8
Hazard labels (IMDG) : 8



IATA

Transport hazard class(es) (IATA) : 8
Hazard labels (IATA) : 8



14.4. Packing group

Packing group (DOT) : II
Packing group (TDG) : Not regulated
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

UN-No. (DOT) : UN3267

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DOT Special Provisions (49 CFR 172.102)	: B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 30 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Transport/Additional information	: 40 - Stow "clear of living quarters",52 - Stow "separated from" acids

TDG

Not regulated

IMDG

Special provision (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T11
Tank special provisions (IMDG)	: TP2, TP27
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2
Segregation (IMDG)	: SGG18, SG35
Properties and observations (IMDG)	: Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.

IATA

Special provision (IATA)	: A3, A803
PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 8L

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SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

N-(n-butyl)-thiophosphonic triamide	CAS-No. 94317-64-3	1-5%
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15.2. International regulations

CANADA

N-(n-butyl)-thiophosphonic triamide (94317-64-3)

Listed on the Canadian DSL (Domestic Substances List)

Dicyandiamide (461-58-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16 Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 4/1/2026

Issue date : 10/21/2024

Full text of hazard classes and H-statements

H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

Indication of changes:

Composition/Information on ingredients. Transport information. Physical and chemical properties.

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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.