



Safety Data Sheet dated 29/03/2016, version 2

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## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

Mixture identification:  
Trade name: BIO-TAM 2.0  
Trade code: -

1.2 Relevant identified uses of the substance/mixture and uses advised against  
Biological mycofungicide  
No other use allowed

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

Company:  
ISAGRO USA- 430 Davis Dr., Suite 240, Morrisville NC 27560  
Subsidiary of: Isagro S.p.A. – Via Caldera, 21 – 20153 Milano, Italy  
Emergency telephone numbers:  
Isagro USA (919) 321-5200 / CHEMTREC (800) 424-9300

### 1.4 Emergency telephone number

QSE Department (office hours: 9.00-18.00) - Phone n.. ++39 02 40901276

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## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:  
Properties / Symbols:

Adverse physicochemical, human health and environmental effects:  
No other hazards

### 2.2 Label elements

#### S Phrases:

S13 Keep away from food, drink and animal feedingstuffs.  
S2 Keep out of reach of children.  
S20/21 When using do not eat, drink or smoke.  
S24/25 Avoid contact with skin and eyes.

#### Contents:

Trichoderma asperellum strain  
Trichoderma gamsii strain

#### Additional advice:

Do not contaminate water with the product or its container

### 2.3 Other hazards

VPVB substances: None  
PBT substances: None

#### Other Hazards:

No other hazards

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS


### 3.1 Substances

N.A.


### 3.2 Mixtures

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:

1% - 3% Trichoderma asperellum ICC012

Xi; R43  
 3.4.2/1 Skin Sens. 1 H317

1% - 3% Trichoderma gamsii ICC080

Xi; R43  
 3.4.2/1 Skin Sens. 1 H317

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#### 4. FIRST AID MEASURES

##### 4.1 Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

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#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

##### 5.2 Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

##### 5.3 Advice for fire-fighters

Use suitable breathing apparatus. Self-contained breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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#### 6. ACCIDENTAL RELEASE MEASURES

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

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

##### 6.2 Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

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

Wash with plenty of water.

##### 6.4 Reference to other sections

See also section 8 and 13

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling:

- Avoid contact with skin and eyes, inhalation of vapours and mists.
- Don't use empty container before they have been cleaned.
- Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
- Contaminated clothing should be changed before entering eating areas.
- Do not eat or drink while working.
- See also section 8 for recommended protective equipment.

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

- Store in a cool and dry place ( $T < 25\text{ }^{\circ}\text{C}$ ). Avoid direct sunlight.
- Keep away from food, drink and feed.
- Incompatible materials:  
None in particular.
- Instructions as regards storage premises:  
Adequately ventilated premises.

### 7.3 Specific end use(s)

- None in particular

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

DNEL Exposure Limit Values

N.A.

PNEC Exposure Limit Values

N.A.

### 8.2 Exposure controls

Eye protection:

- Use close fitting safety goggles, don't use eye lens.

Protection for skin:

- No special precaution must be adopted for normal use.

Protection for hands:

- Not needed for normal use.

Respiratory protection:

- Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Odour:	Slight, characteristic
Odour threshold:	Not relevant
pH:	4.38 (suspension in water)
Melting point / freezing point:	Not relevant
Initial boiling point and boiling range:	Not relevant
Solid/gas flammability:	Not relevant
Upper/lower flammability or explosive limits:	Not available
Vapour density:	Not relevant
Flash point:	Not relevant
Evaporation rate:	Not relevant
Vapour pressure:	Not relevant

Relative density:	Not relevant
Solubility in water:	20 mg/ml
Lipid solubility:	Not available
Partition coefficient (n-octanol/water):	Not relevant
Auto-ignition temperature:	Not relevant
Decomposition temperature:	Not relevant
Viscosity:	
Explosive properties:	Not relevant
Oxidizing properties:	Not relevant
9.2 Other information	
Miscibility:	Not relevant
Fat Solubility:	Not relevant
Conductivity:	Not relevant
Substance Groups relevant properties:	None

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under normal conditions

### 10.2 Chemical stability

Stable under normal conditions

### 10.3 Possibility of hazardous reactions

None

### 10.4 Conditions to avoid:

Stable under normal conditions. Avoid direct sunligh.

### 10.5 Incompatible materials:

None in particular.

### 10.6 Hazardous decomposition products:

None.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Data referred to the mixture:

Acute toxicity:

LD50 (oral): > 2000 mg/kg (rat)

LD50 (dermal): > 2000 mg/kg (rat)

LC50 (4h) (inhalation):

5.20 mg/l air (rat)

Irritating power:

Not irritant to skin and eyes

Sensitizing power:

Not sensitizing agent

Data referred to *Trichoderma asperellum* ICC012:

Skin corrosion/irritation;

Not available

Serious eye damage/irritation;

Not available

Respiratory or skin sensitisation:

Skin: it's supposed to be a sensitizing agent

Carcinogenic effects:  
Not expected to be carcinogenic

Mutagenic effects:  
Trichoderma is not known to be mutagenic

Teratogenic effect:  
Not expected to be teratogenic

Reproductive toxicity:  
Not expected to be toxic  
Germ cell mutagenicity:  
Not available

STOT-single exposure:  
Not available

STOT-repeated exposure:  
Not available

Aspiration hazard:  
Not available

Data referred to *Trichoderma gamsii* ICC080:

Skin corrosion/irritation;  
Not available

Serious eye damage/irritation;  
Not available

Respiratory or skin sensitisation:  
Skin: it's supposed to be a sensitizing agent

Carcinogenic effects:  
Not expected to be carcinogenic

Mutagenic effects:  
Trichoderma is not known to be mutagenic

Teratogenic effect:  
Not expected to be teratogenic

Reproductive toxicity:  
Not expected to be toxic

Germ cell mutagenicity:  
Not available

STOT-single exposure:  
Not available

STOT-repeated exposure:  
Not available

Aspiration hazard:  
Not available

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Adopt good working practices, so that the product is not released into the environment.

Data referred to the mixture:

Algae-

EC50 (48h): > 100 mg/l

EC100 (48h): > 100

### 12.2 Persistence and degradability

Persistence:

It's expected to be not persistent, due to trichoderma data known in bibliography

Degradability: not known

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

Mobility is expected low, due to trichoderma data known in bibliography

### 12.5 Results of PBT and vPvB assessment

VPVB content : None

PBT content : None

### 12.6 Other adverse effects

None

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

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## 14. TRANSPORT INFORMATION

### 14.1 UN number:

None

### 14.2 UN proper shipping name:

Not applicable

### 14.3 Transport hazard class(es):

Not classified

### 14.4 Packing Group:

Not applicable

### 14.5 Environmental hazards

Not applicable

### 14.6 Special Precautions for User

Not applicable

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

Not applicable

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## 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances). Dir. 99/45/EEC (Classification, packaging and labelling of dangerous preparations). Dir. 98/24/EC (Risks related to chemical agents at work). Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH), Regulation (CE) n. 1272/2008 (CLP), Regulation (CE) n. 790/2009 (1° ATP CLP), Regulation (EU) n. 453/2010 (Annex I).

Where applicable, refer to the following regulatory provisions :

Directive 82/501/EEC ('Activities linked to risks of serious accidents') and subsequent amendments.  
Regulation (EC) nr 648/2004 (detergents).  
1999/13/EC (VOC directive)

15.2 Chemical Safety Assessment  
Not applicable

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## 16. OTHER INFORMATION

USEPA Registration Number 80289-9  
EPA Product label classification: CAUTION

R phrases in section 3:  
R43 May cause sensitization by skin contact.

H statements in section 3:  
H317 May cause an allergic skin reaction.

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU. This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold  
CCNL - Appendix 1  
Insert further consulted bibliography

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
CAS: Chemical Abstracts Service (division of the American Chemical Society).  
CLP: Classification, Labeling, Packaging.  
DNEL: Derived No Effect Level.  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
GefStoffVO: Ordinance on Hazardous Substances, Germany.  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
IATA: International Air Transport Association.  
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
ICAO: International Civil Aviation Organization.  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
IMDG: International Maritime Code for Dangerous Goods.  
INCI: International Nomenclature of Cosmetic Ingredients.  
KSt: Explosion coefficient.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
LTE: Long-term exposure.  
PNEC: Predicted No Effect Concentration.  
RID: Regulation Concerning the International Transport of Dangerous Goods

by Rail.

STE: Short-term exposure.  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day.  
(ACGIH Standard).  
WGK: German Water Hazard Class.