

## SAFETY DATA SHEET

Version 4.5  
Revision Date 07/12/2014  
Print Date 11/10/2018

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1. PRODUCT AND COMPANY IDENTIFICATION

## 1.1 Product identifiers

Product name : Dinotefuran

Product Number : 32499  
Brand : Sigma-Aldrich

CAS-No. : 165252-70-0

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

## 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

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2. HAZARDS IDENTIFICATION

## 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 4), H302

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)  
H302 : Harmful if swallowed.

Precautionary statement(s)  
P264 : Wash skin thoroughly after handling.  
P270 : Do not eat, drink or smoke when using this product.  
P301 + P312 : IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
P330 : Rinse mouth.  
P501 : Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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3. COMPOSITION/INFORMATION ON INGREDIENTS

## 3.1 Substances

Synonyms : 1-Methyl-2-nitro-3-[(3-tetrahydrofuryl)methyl]guanidine

Sigma-Aldrich - 32499

(RS)-N-Methyl-N'-nitro-N"-[(tetrahydro-3-furanyl)methyl]guanidine

Formula : C<sub>7</sub>H<sub>14</sub>N<sub>4</sub>O<sub>3</sub>  
Molecular Weight : 202.21 g/mol  
CAS-No. : 165252-70-0

**Hazardous components**

Component	Classification	Concentration
<b>1-Methyl-2-nitro-3-[(3-tetrahydrofuryl)methyl]guanidine</b>		
	Acute Tox. 4; H302	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

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## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Light sensitive. Store under inert gas.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Do not let product enter drains.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |                                 |                                    |
|---------------------------------|------------------------------------|
| a) Appearance                   | Form: crystalline<br>Colour: white |
| b) Odour                        | no data available                  |
| c) Odour Threshold              | no data available                  |
| d) pH                           | no data available                  |
| e) Melting point/freezing point | 106 - 111 °C (223 - 232 °F)        |
| f) Initial boiling point and    | no data available                  |

boiling range

- |   |                                  |
|---|----------------------------------|
| g) Flash point                                  | no data available                |
| h) Evaporation rate                             | no data available                |
| i) Flammability (solid, gas)                    | no data available                |
| j) Upper/lower flammability or explosive limits | no data available                |
| k) Vapour pressure                              | no data available                |
| l) Vapour density                               | no data available                |
| m) Relative density                             | no data available                |
| n) Water solubility                             | 39.8 g/l at 20 °C (68 °F)        |
| o) Partition coefficient: n-octanol/water       | log Pow: -0.549 at 25 °C (77 °F) |
| p) Auto-ignition temperature                    | no data available                |
| q) Decomposition temperature                    | no data available                |
| r) Viscosity                                    | no data available                |
| s) Explosive properties                         | no data available                |
| t) Oxidizing properties                         | no data available                |

## 9.2 Other safety information

Solubility in other solvents	Ethanol 19 g/l Methanol 57 g/l
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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Exposure to sunlight.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - male - 2,804 mg/kg

LD50 Oral - rat - female - 2,000 mg/kg

Inhalation: no data available

LD50 Dermal - rat - > 2,000 mg/kg

no data available

**Skin corrosion/irritation**

Skin - rabbit

Result: Mild skin irritation

**Serious eye damage/eye irritation**

Eyes - rabbit

Result: Mild eye irritation

**Respiratory or skin sensitisation**

- guinea pig

Did not cause sensitisation on laboratory animals.

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Additional Information**

RTECS: Not available

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish LC50 - *Lepomis macrochirus* (Bluegill) - > 1,000 mg/l - 96 h

LC50 - other fish - 4.84 mg/l - 48 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia* - > 1,000 mg/l - 48 h

LC50 - *Crangon crangon* (shrimp) - 0.79 mg/l - 96 h

Toxicity to algae EbC50 - *Pseudokirchneriella subcapitata* (green algae) - > 100 mg/l - 72 h

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 138.4 d

Remarks: According to the results of tests of biodegradability this product is not readily biodegradable.

### 12.3 Bioaccumulative potential

no data available

**12.4 Mobility in soil**  
no data available

**12.5 Results of PBT and vPvB assessment**  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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## 15. REGULATORY INFORMATION

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

1-Methyl-2-nitro-3-[(3-tetrahydrofuryl)methyl]guanidine	CAS-No. 165252-70-0	Revision Date
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**New Jersey Right To Know Components**

1-Methyl-2-nitro-3-[(3-tetrahydrofuryl)methyl]guanidine	CAS-No. 165252-70-0	Revision Date
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**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

Acute Tox.	Acute toxicity
H302	Harmful if swallowed.

**HMIS Rating**

Health hazard:	1
Chronic Health Hazard:	

Flammability: 0  
Physical Hazard 0

**NFPA Rating**

Health hazard: 0  
Fire Hazard: 0  
Reactivity Hazard: 0

**Further information**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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