

**Material Safety Data Sheet**

Version 3.0  
Revision Date 08/30/2009  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Woodward's reagent L

Product Number : B96953  
Brand : Aldrich

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

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : 2-*tert*-Butyl-5-methylisoxazoliumperchlorate  
Woodward's Reagent L

Formula : C<sub>8</sub>H<sub>14</sub>ClNO<sub>5</sub>  
Molecular Weight : 239.65 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>N-<i>tert</i>-Butyl-5-methylisoxazolium perchlorate</b>			
10513-45-8	234-048-0	-	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****OSHA Hazards**

Oxidizer, Target Organ Effect

**Target Organs**

Nerves.

**HMIS Classification**

**Health Hazard:** 0  
**Chronic Health Hazard:** \*  
**Flammability:** 0  
**Physical hazards:** 2

**NFPA Rating**

**Health Hazard:** 0  
**Fire:** 0  
**Reactivity Hazard:** 2  
**Special hazard.:** OX

## Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

## 4. 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.

## 5. FIRE-FIGHTING MEASURES

### Flammable properties

Flash point no data available

Ignition temperature no data available

### Suitable extinguishing media

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

### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Further information

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

### Environmental precautions

Do not let product enter drains.

### Methods for cleaning up

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

## 7. HANDLING AND STORAGE

### Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from combustible material.

### Storage

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves. For prolonged or repeated contact use protective gloves.

#### Eye protection

Safety glasses with side-shields conforming to EN166

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	crystalline
Colour	beige

### Safety data

pH	no data available
Melting point	119.5 - 122 °C (247.1 - 252 °F) - lit.
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

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.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Target Organs</b>	Nerves.,

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

no data available

### Ecotoxicity effects

no data available

### Further information on ecology

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

### Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)

UN-Number: 1479 Class: 5.1 Packing group: II  
Proper shipping name: Oxidizing solid, n.o.s. (N-tert-Butyl-5-methylisoxazolium perchlorate)  
Marine pollutant: No  
Poison Inhalation Hazard: No

### IMDG

UN-Number: 1479 Class: 5.1 Packing group: II EMS-No: F-A, S-Q  
Proper shipping name: OXIDIZING SOLID, N.O.S. (N-tert-Butyl-5-methylisoxazolium perchlorate)  
Marine pollutant: No

### IATA

UN-Number: 1479 Class: 5.1 Packing group: II  
Proper shipping name: Oxidizing solid n.o.s. (N-tert-Butyl-5-methylisoxazolium perchlorate)

## 15. REGULATORY INFORMATION

### OSHA Hazards

Oxidizer, Target Organ Effect

### DSL Status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

N-tert-Butyl-5-methylisoxazolium perchlorate	CAS-No. 10513-45-8
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### 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

Reactivity Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

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

### Pennsylvania Right To Know Components

N-tert-Butyl-5-methylisoxazolium perchlorate	CAS-No. 10513-45-8	Revision Date
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### New Jersey Right To Know Components

N-tert-Butyl-5-methylisoxazolium perchlorate	CAS-No. 10513-45-8	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, or any other reproductive defects.

## 16. OTHER INFORMATION

### Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.