

# MATERIAL SAFETY DATA SHEET

## Section 1 - Chemical Product and Company Identification

**MSDS Name:** 2-(4'-tert-Butylphenyl)-5-(4"-biphenyl)-1,3,4-oxadiazole  
**Catalog Numbers:** B/5360  
**Synonyms:** 2-(4-Biphenyl)-5-(4-tert-butylphenyl)-1,3,4-oxadiazole; Butyl-PBD; BPBD.  
**Company Identification:** Fisher Scientific UK  
Bishop Meadow Road, Loughborough  
Leics. LE11 5RG  
**For information in Europe, call:** (01509) 231166  
**Emergency Number, Europe:** 01509 231166

## Section 2 - Composition, Information on Ingredients

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**CAS#:** 15082-28-7  
**Chemical Name:** 2-(4'-tert-Butylphenyl)-5-(4"-biphenyl)-1,3,4-oxadiazole  
**%:** 100  
**EINECS#:** 239-135-7  
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**Hazard Symbols:** None listed

**Risk Phrases:** None listed

## Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

Caution! The toxicological properties of this material have not been fully investigated. May cause eye, skin, and respiratory tract irritation. Target Organs: No data found.

#### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause skin irritation.

**Ingestion:** No hazard expected in normal industrial use. Ingestion of large amounts may cause gastrointestinal irritation.

**Inhalation:** May cause respiratory tract irritation.

**Chronic:** No information found.

## Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

**Notes to Physician:**

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Autoignition:** Not applicable.

**Temperature:**

**Flash Point:** Not applicable.

**Explosion Limits:** Not available

**Lower:**

**Explosion Limits:** Not available

**Upper:**

**NFPA Rating:** Not published

**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section.

**Section 7 - Handling and Storage**

**Handling:** Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

**Storage:** Store in a cool, dry place. Keep container closed when not in use.

**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Good general ventilation should be sufficient to control airborne levels.

**Exposure Limits** +-----+-----+-----+-----+

Chemical Name	ACGIH	NIOSH	OSHA -
Final PELs			
2-(4'-tert-Butylphenyl)-5-(4''-biphenyl)-1,3,4-oxadiazole	none listed	none listed	none

OSHA Vacated PELs: 2-(4'-tert-Butylphenyl)-5-(4''-biphenyl)-1,3,4-oxadiazole: None listed

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid  
**Color:** white  
**Odor:** None reported.  
**pH:** Not available  
**Vapor Pressure:** Not available  
**Vapor Density:** Not available  
**Evaporation Rate:** Not available  
**Viscosity:** Not available  
**Boiling Point:** 138 deg C ( 280.40°F)  
**Freezing/Melting Point:** Not available  
**Decomposition Temperature:** Not available  
**Solubility in water:** Insoluble in water.  
**Specific Gravity/Density:** Not available.  
**Molecular Formula:** C<sub>24</sub>H<sub>22</sub>N<sub>2</sub>O  
**Molecular Weight:** 354.1668

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials.  
**Incompatibilities with Other Materials:** Not available  
**Hazardous Decomposition Products:** Carbon monoxide, oxides of nitrogen, irritating and toxic fumes and gases, carbon dioxide.  
**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:** CAS# 15082-28-7: None listed  
**LD50/LC50:** RTECS: Not available.  
**Carcinogenicity:** 2-(4'-tert-Butylphenyl)-5-(4"-biphenyl)-1,3,4-oxadiazole - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
**Epidemiology:** Not available  
**Teratogenicity:** Not available  
**Reproductive:** Not available  
**Neurotoxicity:** Not available  
**Mutagenicity:** Not available  
**Other:** Not available

## Section 12 - Ecological Information

Not available

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. RCRA P-Series: None listed. RCRA U-Series: None listed.

## Section 14 - Transport Information

US DOT  
Shipping Name: Not regulated as a hazardous material  
Hazard Class:  
UN Number:  
Packing Group:

Canada TDG  
Shipping Name: Not available  
Hazard Class:  
UN Number:  
Packing Group:

## Section 15 - Regulatory Information

### US Federal

#### TSCA

CAS# 15082-28-7 is listed on the TSCA Inventory.

**Health & Safety Reporting List** None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

#### STATE

2-(4'-tert-Butylphenyl)-5-(4"-biphenyl)-1,3,4-oxadiazole is not present on state lists from CA, PA, MN, MA, FL, or NJ.

#### California Prop 65

#### California No Significant Risk Level:

None of the chemicals in this product are listed.

#### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 15082-28-7: Not available

Canada

CAS# 15082-28-7 is listed on Canada's NDSL List

Canadian WHMIS Classifications: Not available

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 15082-28-7 is not listed on Canada's Ingredient Disclosure List.

#### Section 16 - Other Information

**MSDS Creation Date: 2/09/1998**

**Revision #4 Date 1/19/2006**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.