

**SOVEREIGN CHEMICAL COMPANY**

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## Material Safety Data Sheet

### Oxoflex DPA Pastilles

#### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

|   |  |
|---|--|
| <b>Sovereign Chemical Company</b><br>1225 West Market Street<br>Akron, Ohio 44313<br>Phone: 330-869-0500<br>Fax: 330-869-0518 | <b>Emergency Contact :</b><br>Chemtrec: 1-800-424-9300 (continental USA)<br>(1)703-527-3887 (outside continental USA)  |
| <b>Trade Name(s):</b> Oxoflex DPA Pastilles   | <b>MSDS Number:</b> 1473   |
| <b>Chemical Name:</b> Mixture of 4-cumyldiphenylamine and 4,4'-dicumyldiphenylamine   | <b>Synonyms:</b> Diphenylamine<br>4,4'-Bis(alpha, alpha-dimethylbenzyl)diphenylamine<br>4-(1-methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)phenyl]aniline |
| <b>Prepared By:</b> Sovereign Chemical Company  | <b>Date of Issue:</b> May 7, 2009(supersedes May 20, 2005)<br><b>Revision Number:</b> 2<br><b>Change(s):</b> 3 year update                                     |

#### 2. INGREDIENTS

| <u>Component</u>  | <u>CAS #</u> | <u>Percent</u> | <u>ACGIH (TLV/TWA)</u> | <u>OSHA (PEL/TWA)</u> |
|---|--------------|----------------|------------------------|-----------------------|
| 4-(1-methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)-phenyl]aniline | 10081-67-1   | 90             | NE                     | NE                    |
| 4-(1-methyl-1-phenylethyl)-N-phenylbenzamine                            | 72017-86-8   | 10             | NE                     | NE                    |

#### 3. HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

Light-violet to gray-violet pastilles. Use appropriate personal protective equipment. During fire situations, irritating and toxic gases (CO<sub>2</sub>, CO, NO<sub>x</sub>) may be generated. Keep from entering storm or sanitary sewers, ground water, or soil. Avoid accumulation of dust and eliminate sources of ignition such as static electricity. Avoid prolonged or repeated contact with skin. May cause allergic skin reaction. Avoid breathing vapors. Hot material causes thermal burns to eyes and skin. Avoid high temperatures and contact with oxidants and acids.

**HMIS Rating:** Health – 0, Flammability – 1, Reactivity – 0, Personal Protection Equipment – B\* (safety glasses, gloves)

\*This is recommended personal protection equipment, final personal protection equipment should be determined by the plant safety department based on the actual conditions under which the product is used.

### ***Potential Health Effects:***

***Eye:*** May cause slight eye irritation. Hot material causes thermal burns.

***Skin Contact:*** May cause allergic skin reaction. Hot material causes thermal burns.

***Ingestion:*** Vapors may be irritating to the mucous membranes of the gastro-intestinal tract and cause nausea.

***Inhalation:*** May be irritating to the mucous membranes of the respiratory tract.

***Chronic & Carcinogenicity:*** The product is not known to be carcinogenic.

## ***4. FIRST AID MEASURES***

***Skin:*** Wash off immediately with plenty of soap and water. Seek medical advice in case of skin rash.

***Eye:*** Rinse immediately with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

***Ingestion:*** Remove visible material, clean the face with water; lie down quietly and seek medical advice. Drink milk or warm water with 10 tablets of medicinal charcoal and induce vomiting.

***Inhalation:*** Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention if irritation persists.

## ***5. FIRE FIGHTING MEASURES***

***Flash Point:*** 276°C (529°F) COC ***LEL:*** ND ***UEL:*** ND ***Auto Ignition Temperature:*** ND

Use water, CO<sub>2</sub>, dry chemical or foam to extinguish fires. A self contained breathing apparatus (SCBA) operating in the positive pressure mode and full fire fighting protective clothing should be worn for combating fires. During a fire the product can form carbon monoxide, carbon dioxide and nitrogen oxides.

## ***6. ACCIDENTAL RELEASE MEASURES***

Eliminate sources of ignition such as static electricity. Individuals involved in the cleanup should wear appropriate personal protective equipment. See Section 8. Unnecessary personnel should be kept clear of the area. Take up any spilled product by mechanical means (avoid dust formation) and place into sealed containers for proper disposal.

Do not allow product to enter sewage or ground water. Dispose of waste materials including empty product bags or drums in accordance with Local, State and Federal regulations.

## ***7. HANDLING AND STORAGE***

***Storage Conditions:*** Do not store at high temperatures or near acids, oxidants or foodstuffs. Store in closed containers in a dry environment. Recommended packaging is multi-layer paper bags.

***Handling:*** . Good housekeeping and engineering practices should be employed to prevent the generation and accumulation of dusts. Eliminate sources of ignition such as static electricity. Wet mopping or vacuuming with a unit that contains a HEPA filter is recommended to clean up any dusts generated during processing or handling. Individuals handling this product should wear personal protective equipment specified in Section 8. Plant environment should include controls and equipment specified in Section 8.

## ***8. EXPOSURE CONTROL - PERSONAL PROTECTION***

***Engineering Controls:*** Local exhaust ventilation should be provided. Design details for local exhaust ventilation systems may be found in the latest edition of "Industrial Ventilation: A Manual of Recommended Practices" published by the ACGIH Committee on Industrial Ventilation, P.O. Box 16153, Lansing, MI 48910. The need for local exhaust ventilation should be evaluated by a professional industrial hygienist. Local exhaust ventilation systems should be designed by a professional engineer.

***Respiratory Protection:*** Dusk mask is not required but is recommended especially if dusts are formed while handling material.

***Eye Protection:*** Safety glasses.

***Protection Gloves:*** Protective gloves should be worn.

***Other Protection Items:*** Neoprene or nitrile rubber coated apron or other body covering may be required if there is a possibility of regular work clothing becoming contaminated with the product. All soiled or dirty clothing and personal protective equipment should be thoroughly cleaned before reuse. A shower is recommended after handling product. Do not eat or smoke while handling this product. Avoid prolonged or repeated contact with skin. Avoid contact with material when it is in a hot liquid form.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |   |
|---|---|
| <b>Appearance/Physical State:</b> Light-violet to gray-violet pastilles | <b>Melt Point:</b> 90°C (194°F)   |
| <b>Vapor Density (Air = 1):</b> Not applicable                          | <b>Octanol/Water Partition Coefficient:</b> Not determined                          |
| <b>Vapor Pressure:</b> 6.67 hPa at 20 °C                                | <b>Evaporation Rate BuOAC = 1:</b> Not applicable                                   |
| <b>Odor:</b> Aromatic   | <b>Specific Gravity @ 20 °C:</b> 1.14<br><b>Bulk Density:</b> 550 kg/m <sup>3</sup> |
| <b>% Volatile by Volume:</b> Not applicable                             | <b>Boiling Point:</b> Not applicable  |
| <b>% Solubility (H<sub>2</sub>O) :</b> Insoluble (7 mg/l)               | <b>pH:</b> Not applicable   |
| <b>Other:</b> None  |   |

## 10. STABILITY AND REACTIVITY

**Stability /Polymerization:** Hazardous polymerization does not occur. Thermally stable to over 300°C.

**Incompatibility (conditions to avoid):** High temperatures and contact with acids and oxidants. Moisture will weaken product bag.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide and nitrogen oxides.

**Special Sensitivity:** None

## 11. TOXICOLOGICAL INFORMATION

LD<sub>50</sub> >5000 mg/kg (oral, rat)

LD<sub>50</sub> >2000 mg/kg (dermal, rabbit)

Eye irritation (rabbit): non-irritating

Skin irritation (rabbit) nonirritating

Skin Sensitization: unlikely to cause sensitization on humans.

## 12. ECOLOGICAL INFORMATION

Acute Toxicity To Fish LC50(96 h) 0.00023 mg/l (estimated)

Acute Toxicity to Algae LC50(96 h) 0.000349 mg/l (estimated)

Acute Toxicity to Daphnia LC50 (48 h) 0.00038 mg/l (estimated)

## 13. DISPOSAL CONSIDERATIONS

Burn in an approved incinerator or dispose in approved chemical landfill in accordance with all applicable local, state and federal laws and regulations.

## 14. TRANSPORTATION INFORMATION

**DOT Proper Shipping Name:** Not applicable.

**DOT Hazard Class/I.D. No.:** Not applicable

**DOT Label:** Not applicable

**DOT Hazardous Substances:** Not applicable

**U.S. Surface Freight Classification:** Rubber Preservative, N.O.I.B.N.

**IATA:** Not classified

**RID/ADR:** Not classified

**IMDT:** Not Classified

## 15. REGULATORY INFORMATION

**CERCAL/RCRA:** No reportable quantities or threshold planning quantities.

**TSCA:** All ingredients listed on the TSCA inventory list.

**SARA Title III, Section 313:** Not listed.

**WHMIS, NRP, IARC, SUBPART Z, Proposition 54 (CA), Clean Air:** Not listed.

**Canadian DSL:** 4,4'-dicumyldiphenylamine CAS # 10081-67-1 is listed.

**Canadian Non-DSL:** 4-cumyldiphenylamine CAS # 72017-86-8 is listed.

## **16. OTHER INFORMATION**

NE = Not Established  
NA = Not Applicable  
ND = Not Determined

### ***Information contained in this MSDS sheet have been gathered from the following documents:***

Chemical REG-A-DEX, J.J.Keller, March 2000  
WHMIS Compliance Manual, Carswell, April 2000  
Transportation of Dangerous Good, J.J.Keller, February 2000  
Code of Federal Regulations, Transportation, 49 CFR Parts 100 to 185, October 2003  
NIOSH Pocket Guide to Chemical Hazards,  
ACGIH Threshold Limit Values,  
HMIS Implementation Manual, 2nd Edition  
Toxicity and Safe Handling of Rubber Chemicals, BRMA, 3rd Edition  
ChemCheck Handbook, Specialty Technical Publishers,  
IARC WEB site  
NTP WEB site

***IMPORTANT SAFETY NOTICE:*** The information in the Material Safety Data Sheet relates only to the specific material(s) described herein and does not relate to use in combination with any other material or substance or in any process. We believe that the information contained herein is current as of the date of issue of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of this product are not within the control of Sovereign Chemical Company, it is the user's obligation to determine the conditions of safe use of the product.

Users of this product should study this Material Safety Data Sheet and become aware of the product hazards and safety information before using the product. Users should also notify their employees, agents, and contractors of the information on this Material Safety Data Sheet and any product hazards and safety information in order to provide safe use of this product.