4,4'-Oxydianiline 101-80-4 MSDS

Name:	4-Aminophenyl ether 98% Material Safety Data Sheet
Synonym:	4,4'-Oxydianiline; ODA; 4,4'-Diaminodiphenyl ether
CAS:	101-80-4

Section 1 - Chemical Product

MSDS Name:4-Aminophenyl ether 98% Material Safety Data Sheet
Synonym:4,4'-Oxydianiline; ODA; 4,4'-Diaminodiphenyl ether

Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content
101-80-4	4,4'-Diaminodiphenyl ether	98

Hazard Symbols: T
Risk Phrases: 22 45

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Harmful if swallowed. May cause cancer.
Potential Health Effects
Eye:
May cause eye irritation.
Skin:
May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
Ingestion:
May cause irritation of the digestive tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. May be harmful if swallowed.
Inhalation:
May cause respiratory tract irritation. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood. Inhalation of aniline causes anoxia due to the formation of methemoglobin.
Chronic:
Prolonged exposure may cause anemia and methemoglobinemia, characterized by dizziness, drowsiness, headache, breath shortness, cyanosis (bluish skin due to deficient oxygenation of the

blood), rapid heart rate and chocolate-brown colored blood. Repeated exposure may cause sensitization dermatitis. Effects may be delayed. Potential cancer hazard.

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:
Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion:
Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
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. Do NOT use mouth-to-mouth resuscitation.
Notes to Physician:
For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.
Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

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. Use water spray to keep fire-exposed containers cool. May polymerize explosively when involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.
Combustible material; may burn but does not ignite readily.
Extinguishing Media:
Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray.
Cool containers with flooding quantities of water until well after fire is out.

Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:
Avoid runoff into storm sewers and ditches which lead to waterways.
Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Use with adequate ventilation.
Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.
Storage:
Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits CAS# 101-80-4: Russia: 5 mg/m3 TWA 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 prevent skin exposure.
Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder
Color: almost white
Odor: none reported
pH: Not available.
Vapor Pressure: 0.06 hPa @ 20 C
Viscosity: Not available.
Boiling Point: 190 deg C
Freezing/Melting Point: 188-190 deg C
Autoignition Temperature: Not applicable.
Flash Point: > 218 deg C (> 424.40 deg F)
Explosion Limits, lower: Not available.
Explosion Limits, upper: Not available.
Decomposition Temperature:
Solubility in water:
Specific Gravity/Density:
Molecular Formula: C12H12N2O
Molecular Weight: 200.24

Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.
Conditions to Avoid:
Incompatible materials, dust generation, excess heat.
Incompatibilities with Other Materials:
Oxidizing agents.
Hazardous Decomposition Products:
Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, nitrogen.
Hazardous Polymerization: Has not been reported.

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:
CAS# 101-80-4: BY7900000 LD50/LC50:
CAS# 101-80-4: Oral, mouse: LD50 = 685 mg/kg; Oral, rabbit: LD50 = 700 mg/kg; Oral, rat: LD50 = 725 mg/kg.
Carcinogenicity:
4,4'-Diaminodiphenyl ether - California: carcinogen, initial date 1/1/88 NTP: Suspect carcinogen
IARC: Group 2B carcinogen Other:
See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Other For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION

IATA
Not regulated as a hazardous material.
IMO
Not regulated as a hazardous material.
RID/ADR
Not regulated as a hazardous material.

Section 15 - REGULATORY INFORMATION

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: T
Risk Phrases:
R 45 May cause cancer.
R 22 Harmful if swallowed.
Safety Phrases:
S 53 Avoid exposure - obtain special instructions
before use.
S 45 In case of accident or if you feel unwell, seek

medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 101-80-4: No information available.

Canada

CAS# 101-80-4 is listed on Canada's NDSL List.

CAS# 101-80-4 is not listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 101-80-4 is listed on the TSCA inventory.

SECTION 16 - ADDITIONAL INFORMATION

N/A