DuPont Haskell Laboratory
for Health and Environmental Sciences
Elkton Road, P.O. Box 50
Newark, DE 19714-0050

May 18, 2007

Via Federal Express

Document Processing Center (Mail Code 7407M)
Room 6428
Attention: FYI Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
1201 Constitution Ave., NW
Washington, DC 20460

CONTAIN NO CBI

Dear FYI Coordinator:

Re: Pyrocatechol (CAS # 120-80-9)

The submission provides information on effects reported by an employee from what is believed to be exposure to pyrocatechol. Specifically, the employee reported experiencing headaches and tingling sensations in the lower legs over the course of a 2 week period. The employee reported experiencing these effects while located in the area of his desk. As a result of an investigation into the matter, it was determined that the most likely source of exposure was pyrocatechol vapors from waste materials contained in a triwall container that was located near the doorway to the employee's desk area. The triwall container was removed and the effects reported by the employee ceased.

Effects from catechol exposure, as reported in various Material Safety Data Sheets (MSDSs), include headache, central nervous system depression, peripheral nerve sensation, and neurological disorders.[1] It is noted that this employee and one other employee previously reported numbness and tingling, for a period of 1-2 hours, in the hands, lips, cheeks, and wrists when unloading catechol in the work area. These effects are consistent with expected catechol exposure effects as reported on various MSDSs. The employees have worn respirators while in the unloading area since the initial reports were made. No further adverse effects reports were received from either employee until the report described above was received.

Although the effects reported above are consistent with effects from pyrocatechol exposure reported on the cited MSDSs, this information is being provided to the Agency for information and as a precautionary measure.

Sincerely,

A. Michael Kaplan

FYI-07-01587

A. Michael Kaplan, Ph.D.
Director – Regulatory Affairs and Occupational Health

AMK: clp
(302) 366-5260

8407000077

[1] See Material Safety Data Sheets for Pyrocatechol/Catechol from Mallinckrodt Chemicals, Fisher Scientific, and Aldrich Chemical Company (copy of each enclosed with this letter)

304742

MSDS Number: **P7896** * * * * * *Effective Date:* ***02/16/06*** * * * * * *Supercedes:* ***05/08/03***

MSDS Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt CHEMICALS J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

PYROCATECHOL

1. Product Identification

Synonyms: Catechol; 1,2-benzenediol; 1,2-dihydroxy benzene
CAS No.: 120-80-9
Molecular Weight: 110.11
Chemical Formula: C6H6O2
Product Codes:
J.T. Baker: U672
Mallinckrodt: 1724

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Catechol	120-80-9	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CORROSIVE. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. AFFECTS EYES, SKIN, RESPIRATORY TRACT AND CENTRAL NERVOUS SYSTEM. EXPOSURE MAY PRODUCE LIVER, KIDNEY, AND NEUROLOGICAL DISORDERS. MAY CAUSE ALLERGIC SKIN REACTION.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Life)
Flammability Rating: 1 - Slight
Reactivity Rating: 1 - Slight
Contact Rating: 3 - Severe (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:
Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Breathing vapor or dust results in digestive disturbances (vomiting, difficulty in swallowing, diarrhea, loss of appetite). Systemic poisoning may occur with symptoms similar to those of ingestion.

Ingestion:
Poison. Symptoms may include burning pain in mouth and throat, abdominal pain, headache, dizziness, muscular weakness, irregular breathing, coma, and possibly death. May interfere with blood's capability to carry oxygen (methemoglobinemia), as evidenced by bluish color to skin and lips. With catechol exposure, convulsions are more marked than with phenol exposure, and blood dyscrasias (imbalance of components of the blood) have been noted.

Skin Contact:
Corrosive. May be absorbed through the skin with systemic poisoning effects to follow. Discoloration and severe burns may occur. May cause allergic skin reactions.

Eye Contact:
Corrosive. Redness, pain, blurred vision may occur. May cause severe damage and blindness.

Chronic Exposure:
Repeated exposure may cause symptoms described for acute poisoning as well as liver damage.

Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

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4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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5. Fire Fighting Measures

Fire:

Flash point: 127.2C (261F) CC

Flammable limits in air % by volume:

lel: 1.4

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Sealed containers may rupture when heated.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Storage and use should be in No Smoking Areas. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
Catechol:
- ACGIH Threshold Limit Value (TLV):
5 ppm (TWA) skin, A3 animal carcinogen.
- NIOSH Recommended Exposure Limits (RELs):
5 ppm (TWA) skin.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half-face respirator with an organic vapor cartridge and particulate filter (NIOSH type N95 or better filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece respirator with an organic vapor cartridge and particulate filter (NIOSH N 100 filter) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P particulate filter. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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9. Physical and Chemical Properties

Appearance:

Colorless crystals.
Odor:
Phenolic odor.
Solubility:
Soluble in 2-3 parts water.
Specific Gravity:
1.344
pH:
No information found.
% Volatiles by volume @ 21C (70F):
0
Boiling Point:
245C (473F)
Melting Point:
104 - 106C (219 - 223F)
Vapor Density (Air=1):
3.79
Vapor Pressure (mm Hg):
10 @ 118.3C (244F)
Evaporation Rate (BuAc=1):
No information found.

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10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Light sensitive. Discolors on exposure to air or light.
Hazardous Decomposition Products:
Carbon dioxide and carbon monoxide may form when heated to decomposition.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Acid chlorides, acid anhydrides, bases, oxidizing agents.
Conditions to Avoid:
Heat, flames, ignition sources and incompatibles.

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11. Toxicological Information

Oral rat LD50: 260 mg/kg; skin rabbit LD50: 800 mg/kg; Investigated as a tumorigen, mutagen, reproductive effector.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category

Catechol (120-80-9)	No	No	2B

12. Ecological Information

Environmental Fate:
When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material may biodegrade to a moderate extent. When released into water, this material is not expected to evaporate significantly. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.
Environmental Toxicity:
The LC50/96-hour values for fish are between 1 and 10 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (PYROCATECHOL)
Hazard Class: 6.1, 8
UN/NA: UN2928
Packing Group: II
Information reported for product/size: 500G

International (Water, I.M.O.)

Proper Shipping Name: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (PYROCATECHOL)
Hazard Class: 6.1, 8
UN/NA: UN2928
Packing Group: II
Information reported for product/size: 500G

15. Regulatory Information

--------\Chemical Inventory Status - Part 1\---------------------------------

Ingredient	TSCA	EC	Japan	Australia
Catechol (120-80-9)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\---------------------------------

Ingredient	Korea	--Canada-- DSL	NDSL	Phil.
Catechol (120-80-9)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------------

Ingredient	-SARA 302- RQ	TPQ	------SARA 313------ List	Chemical Catg.
Catechol (120-80-9)	No	No	Yes	No

--------\Federal, State & International Regulations - Part 2\----------------

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
Catechol (120-80-9)	100	No	Yes

Chemical Weapons Convention: No TSCA 12(b): Yes CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Pure / Solid)

WARNING:
THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

Australian Hazchem Code: None allocated.
Poison Schedule: None allocated.
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: **3** Flammability: **1** Reactivity: **0**
Label Hazard Warning:
DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CORROSIVE. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. AFFECTS EYES, SKIN, RESPIRATORY TRACT AND CENTRAL NERVOUS SYSTEM. EXPOSURE MAY PRODUCE LIVER, KIDNEY, AND NEUROLOGICAL DISORDERS. MAY CAUSE ALLERGIC SKIN REACTION.
Label Precautions:
Do not breathe dust or vapor.
Do not get in eyes, on skin, or on clothing.

Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.

Label First Aid:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer:

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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)

Material Safety Data Sheet
Catechol

ACC# 04360

Section 1 - Chemical Product and Company Identification

MSDS Name: Catechol
Catalog Numbers: AC158980050, AC158981000, AC158985000, P370-500
Synonyms: o-Benzenediol; 1,2-Benzenediol; o-Dihydroxybenzene; 1,2-Dihydroxybenzene; Pyrocatechol.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
120-80-9	Catechol	99	204-427-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: almost white to brown solid.
Warning! Causes eye and skin burns. Harmful if absorbed through the skin. Harmful if swallowed. May cause allergic skin reaction. May cause severe respiratory and digestive tract irritation with possible burns. May cause central nervous system depression. May cause methemoglobinemia. Sublimes (goes directly from solid to vapor form) readily at room temperature.
Target Organs: Kidneys, central nervous system, liver, lungs, cardiovascular system, red blood cells.

Potential Health Effects
Eye: Causes eye burns. May cause chemical conjunctivitis and corneal damage.
Skin: Harmful if absorbed through the skin. Causes skin burns. Prolonged and/or repeated contact may cause irritation and/or dermatitis. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. If absorbed, causes symptoms similar to those of ingestion. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.
Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause perforation of the digestive tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. May cause central nervous system

depression. May cause systemic effects. May cause a prolonged rise in blood pressure which may lead to degenerative changes in the
Inhalation: May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. May cause effects similar to those described for ingestion. Aspiration may lead to pulmonary edema. May cause systemic effects.
Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. Effects may be delayed.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Do not induce vomiting. 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 immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.

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. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.
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.
Flash Point: 127 deg C (260.60 deg F)
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 0

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. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes.
Storage: Keep container closed when not in use. Keep from contact with oxidizing materials. Corrosives area. Store in a cool, dry 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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Catechol	5 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous r oute	5 ppm TWA; 20 mg/m3 TWA	none listed

OSHA Vacated PELs: Catechol: 5 ppm TWA; 20 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: Solid
Appearance: almost white to brown
Odor: phenol-like
pH: Not available.

Vapor Pressure: 5 mm Hg @ 104C
Vapor Density: 3.79
Evaporation Rate: Negligible.
Viscosity: Not applicable.
Boiling Point: 245 deg C
Freezing/Melting Point:104 deg C
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density:1.37
Molecular Formula:C6H6O2
Molecular Weight:110.11

Section 10 - Stability and Reactivity

Chemical Stability: Substance undergoes color change upon exposure to light and air. Substance is sublimable, able to go directly from solid to vapor.
Conditions to Avoid: Light, dust generation, excess heat, prolonged exposure to air.
Incompatibilities with Other Materials: Strong oxidizing agents, strong reducing agents, strong acids, strong bases.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 120-80-9: UX1050000
LD50/LC50:
CAS# 120-80-9:
Oral, mouse: LD50 = 260 mg/kg;
Oral, mouse: LD50 = 100 mg/kg;
Oral, rat: LD50 = 260 mg/kg;
Oral, rat: LD50 = 3890 mg/kg;
Skin, rabbit: LD50 = 800 mg/kg;
Skin, rabbit: LD50 = 800 mg/kg;

Carcinogenicity:
CAS# 120-80-9:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 7/15/03
- **NTP:** Not listed.
- **IARC:** Group 2B carcinogen

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found

Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information 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	Canada TDG
Shipping Name:	TOXIC SOLIDS, ORGANIC, N.O.S.	TOXIC SOLID ORGANIC NOS (CATECHOL)
Hazard Class:	6.1	6.1
UN Number:	UN2811	UN2811
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 120-80-9 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
CAS# 120-80-9: Testing required by manufacturers, processors
Section 12b
CAS# 120-80-9: Section 4
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 120-80-9: 100 lb final RQ; 45.4 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 120-80-9: immediate, delayed.
Section 313
This material contains Catechol (CAS# 120-80-9, 99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:

CAS# 120-80-9 is listed as a hazardous air pollutant (HAP).
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:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 120-80-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Catechol, a chemical known to the state of California to cause cancer.
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:

XN

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.
R 36/38 Irritating to eyes and skin.

Safety Phrases:

S 22 Do not breathe dust.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37 Wear suitable gloves.

WGK (Water Danger/Protection)

CAS# 120-80-9: 2

Canada - DSL/NDSL

CAS# 120-80-9 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2B.
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.

Canadian Ingredient Disclosure List

CAS# 120-80-9 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/15/1999
Revision #7 Date: 2/01/2006

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 Fisher 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 Fisher has been advised of the

possibility of such damages.

Valid 11/2002 - 01/2003

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233 USA
Tel: 414-273-3850

MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -
CATALOG #: 135011
NAME: CATECHOL, 99+%
SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 120-80-9
MF: C6H6O2
EC NO: 204-427-5
SYNONYMS
BENZENE, O-DIHYDROXY- * O-BENZENEDIOL * 1,2-BENZENEDIOL * CATECHIN (PHENOL) * CATECHOL (ACGIH) * CATECHOL (PHENOL) * C.I. 76500 * C.I. OXIDATION BASE 26 * O-DIHYDROXYBENZENE * 1,2-DIHYDROXYBENZENE * O-DIOXYBENZENE * O-DIPHENOL * DURAFUR DEVELOPER C * FOURAMINE PCH * FOURRINE 68 * O-HYDROQUINONE * O-HYDROXYPHENOL * 2-HYDROXYPHENOL * KATECHOL (CZECH) * NCI-C55856 * OXYPHENIC ACID * PELAGOL GREY C * O-PHENYLENEDIOL * PHTHALHYDROQUINONE * PYROCATECHIN * PYROCATECHINE * PYROKATECHIN (CZECH) *
SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
CORROSIVE
CAUSES BURNS.
HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
READILY ABSORBED THROUGH SKIN.
TARGET ORGAN(S):
LIVER, KIDNEYS
NERVES
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
DO NOT BREATHE DUST.
AUTOIGNITION TEMPERATURE:
SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - -
EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -
APPEARANCE AND ODOR
WHITE TO TAN SOLID
PHYSICAL PROPERTIES
BOILING POINT: 245 C
MELTING POINT: 104 C TO 106 C
FLASHPOINT 279 F
EXPLOSION LIMITS IN AIR:
LOWER 1.97%
VAPOR PRESSURE: 1MM 75 C 10MM 118.3 C
SOLUBILITY:
ETHER, CARBON T
SOLUBLE IN CHL VERY SOLUBLE IN
VAPOR DENSITY: 3.8

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -
CONDITIONS TO AVOID
MAY DISCOLOR ON EXPOSURE TO AIR.
INCOMPATIBILITIES
REACTS VIOLENTLY WITH:
SENSITIVE TO LIGHT
OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -
ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

CHRONIC EFFECTS
TARGET ORGAN(S):
CENTRAL NERVOUS SYSTEM
KIDNEYS
LIVER
THIS PRODUCT IS OR CONTAINS A COMPONENT THAT IS NOT CLASSIFIABLE AS TO ITS CARCINOGENICITY BASED ON ITS IARC, ACGIH, NTP OR EPA CLASSIFICATION.
RTECS #: UX1050000
PYROCATECHOL
TOXICITY DATA

ORL-RAT LD50:260 MG/KG	AFREAW 3,197,1951
ORL-MUS LD50:260 MG/KG	AFREAW 3,197,1951
IPR-MUS LD50:68 MG/KG	PHTOEH 64,247,1989
SCU-MUS LD50:247 MG/KG	INHEAO 5,143,1967
ORL-DOG LD50:130 MG/KG	IPSTB3 3,93,1976
ORL-CAT LD50:100 MG/KG	IPSTB3 3,93,1976
SKN-RBT LD50:800 MG/KG	AIHAAP 37,596,1976
ORL-GPG LD50:210 MG/KG	AFREAW 3,197,1951
ORL-MAM LD50:240 MG/KG	TPKVAL 15,136,1979

TARGET ORGAN DATA
PERIPHERAL NERVE AND SENSATION (SPASTIC PARALYSIS WITH/WITHOUT SENSORY CH
BEHAVIORAL (ALTERED SLEEP TIME)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORAL (MUSCLE CONTRACTION OR SPASTICITY)
LUNGS, THORAX OR RESPIRATION (DYSPNAE)
BLOOD (LUEKOPENIA)
BLOOD (METHEMOGLOBINEMIA-CARBOXHEMOGLOBINEMIA)
SKIN AND APPENDAGES (PRIMARY IRRITATION)
MATERNAL EFFECTS (OVARIES, FALLOPIAN TUBES)
EFFECTS ON FERTILITY (LITTER SIZE)
NUTRITIONAL AND GROSS METABOLIC (WEIGHT LOSS OR DECREASED WEIGHT GAIN)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION
EC INDEX NO: 604-016-00-4
CORROSIVE
R 21/22
HARMFUL IN CONTACT WITH SKIN AND IF SWALLOWED.
R 36/38
IRRITATING TO EYES AND SKIN.
S 22
DO NOT BREATHE DUST.

S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 37
WEAR SUITABLE GLOVES.
REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
ACGIH TLV-CONFIRMED ANIMAL CARCINOGEN DTLVS* TLV/BEI,1999
ACGIH TLV-TWA 5 PPM (SKIN) DTLVS* TLV/BEI,1999
IARC CANCER REVIEW:ANIMAL SUFFICIENT EVIDENCE IMEMDT 71,433,1999
IARC CANCER REVIEW:ANIMAL INADEQUATE EVIDENCE IMEMDT 15,155,1977
IARC CANCER REVIEW:HUMAN NO ADEQUATE DATA IMEMDT 15,155,1977
IARC CANCER REVIEW:HUMAN NO ADEQUATE DATA IMEMDT 71,433,1999
IARC CANCER REVIEW:GROUP 2B IMEMDT 71,433,1999
OEL-AUSTRALIA: TWA 5 PPM (20 MG/M3), JAN1993
OEL-AUSTRIA: MAK 5 PPPM (20 MG/M3), JAN1999
OEL-BELGIUM: TWA 5 PPM (23 MG/M3), JAN1993
OEL-DENMARK: TWA 5 PPM (20 MG/M3), JAN1999
OEL-FINLAND: TWA 5 PPM (22 MG/M3), STEL 10 PPM (45 MG/M3), JAN1999
OEL-FRANCE: VME 5 PPM (20 MG/M3), JAN1999
OEL-THE NETHERLANDS: MAC-TGG 5 PPM (20 MG/M3), JAN1999
OEL-NORWAY: TWA 5 PPM (20 MG/M3), JAN1999
OEL-SWEDEN: NGV 5 PPM (20 MG/M3), KTV 10 PPM (40 MG/M3), SKIN, JAN1999
OEL-SWITZERLAND: MAK-W 5 PPM (23 MG/M3), JAN1999
OEL-UNITED KINGDOM: TWA 5 PPM (23 MG/M3), SEP2000
OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO CATECHOL-AIR:10H TWA 5 PPM (SK)
NIOSH* DHHS #92-100,1992
NOHS 1974: HZD M1763; NIS 4; TNF 147; NOS 6; TNE 642
NOES 1983: HZD M1763; NIS 8; TNF 700; NOS 15; TNE 13516; TFE 5799
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
ON EPA IRIS DATABASE
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001
U.S. INFORMATION
THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.
SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA 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.