Yangzhou Sunchem Co.,Ltd.
Material Safety Data Sheet
O-Aminoanisole

Section 1 - Chemical Product and Company Identification

MSDS Name: O-Aminoanisole

Company Identification:

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Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
90-04-0	o-Anisidine	0.1-0.7	201-963-1

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: beige solid.

Warning! Causes eye, skin, and respiratory tract irritation. Harmful if swallowed, inhaled, or absorbed through the skin. Methemoglobin former - can cause cyanosis. May cause blood abnormalities. May cause liver and kidney damage. Danger of cumulative effects.

Target Organs: Blood, kidneys, central nervous system, liver.

Potential Health Effects

Eye: Causes severe eye irritation.

Skin: Causes skin irritation. May be absorbed through the skin in harmful amounts. May cause contact dermatitis.

Ingestion: May cause irritation of the digestive tract. May cause kidney damage. 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. The effects observed in rats, mice and rabbits for both o- and p- isomers include hematologic changes, anemia, and nephrotoxicity.

Inhalation: Causes respiratory tract irritation. Inhalation causes anoxia due to the formation of methemoglobin and hematuria. Material has a very low vapor pressure at room temperature, so inhalation exposures are not expected unless material is heated or misted.

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.

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 imme diately.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical aid if symptoms occur.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

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. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

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

Flash Point: 122 deg C (251.60 deg F)

Autoignition Temperature: 450 deg C (842.00 deg F)

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; 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. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Do not breathe dust. Use only with adequate ventilation.
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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
p-Anisidine	0.5 mg/m3 TWA; Skin - potential significant contribution to overall exposure by the cutaneous r oute	0.5 mg/m3 TWA 50 mg/m3 IDLH	0.5 mg/m3 TWA (listed under Anisidine (o-, p- isomers)).
o-Anisidine	0.5 mg/m3 TWA; Skin - potential significant contribution to overall exposure	0.5 mg/m3 TWA 50 mg/m3 IDLH	0.5 mg/m3 TWA (listed under Anisidine (o-, p- isomers)).

	by the cutaneous r oute		

OSHA Vacated PELs: p-Anisidine: No OSHA Vacated PELs are listed for this chemical. o-Anisidine: No OSHA Vacated PELs are listed for this chemical.

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 and clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. 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

Appearance: beige

Odor: amine-like

pH: Not available.

Vapor Pressure: 0.006 mm Hg @ 25 deg C

Vapor Density: 4.28 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 240-243 deg C @ 760 mm Hg

Freezing/Melting Point:56-60 deg C

Decomposition Temperature:> 300 deg C

Solubility: Slightly soluble.

Specific Gravity/Density:1.070 g/cm3

Molecular Formula:C7H9NO

Molecular Weight:123.15

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Light, dust generation, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, acids, acid chlorides, acid anhydrides, chloroformates.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 104-94-9: BZ5450000
CAS# 90-04-0: BZ5410000
LD50/LC50:
CAS# 104-94-9:

Oral, mouse: LD50 = 1410 mg/kg;
Oral, rabbit: LD50 = 2900 mg/kg;
Oral, rat: LD50 = 1320 mg/kg;
Skin, rat: LD50 = 3200 mg/kg;

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CAS# 90-04-0:

Oral, mouse: LD50 = 1400 mg/kg;
Oral, rabbit: LD50 = 870 mg/kg;
Oral, rat: LD50 = 1150 mg/kg;

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Carcinogenicity:
CAS# 104-94-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 90-04-0:

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- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** carcinogen, initial date 7/1/87
- **NTP:** Not listed.
- **IARC:** Group 2B carcinogen

Epidemiology: Workmen exposed to 0.4 ppm of anisidine (o- & p- isomers) for 3.5 hrs/day for 6 mo. developed no anemia. There were, however, some complaints of headache and dizziness, increased sulfhemoglobin & methemoglobin & frequent occurrence of Heinz bodies.
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: Anisidine may be absorbed through the skin. Mice exposed to p-anisidine at

concentrations of 10-30 mg/m3, 2 hours/day, 6 days/week demonstrated a decrease in the excitability of nerves at the end of 1 month.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Water flea EC50 = 0.18 mg/L; 48 Hr.; UnspecifiedBacteria: Phytobacterium phosphoreum: EC50 = 14.5 mg/L; 30 Minutes; Microtox test, 15 degrees C No data available.

Environmental: Log Kow of 0.95; BCF= 3. If released to water, p-anisidine may react with photochemically generated oxidants found in natural, sunlit water or it may bond strongly with humic materials found in suspended solids and sediments. The typical half-life for reaction of aromatic amines with photochemically generated hydroxyl radicals and alkylperoxy radicals is estimated to be on the order of 19-30 hours in natural, sunlit water. It appears that aerobic degradation would proceed at a rate which would be too slow to be environmentally insignificant.

Physical: When added to soil, aromatic amines become strongly and irreversibly bound to humic materials. This binding results from formation of covalent bonds between soil humus and the amine group of the aniline and it is enhanced by existence of electron donating group such as the methoxy group of p-anisidine. As a results, p-anisidine is expected to be relatively immobile in soil and to be stongly bound to humic material found in suspended solids and sediments in water.

Other: If released to soil, p-anisidine is expected to be immobilized by strong, irreversible covalent bonding with any humic materials.

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:	ANISIDINES	ANISIDINES, SOLID
Hazard Class:	6.1	6.1
UN Number:	UN2431	UN2431
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 104-94-9 is listed on the TSCA inventory.

CAS# 90-04-0 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

CAS# 90-04-0: 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 # 104-94-9: immediate, delayed.

CAS # 90-04-0: immediate, delayed.

Section 313

This material contains p-Anisidine (CAS# 104-94-9, > 95%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains o-Anisidine (CAS# 90-04-0, 0.1-0.7%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 90-04-0 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# 104-94-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 90-04-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

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

California No Significant Risk Level: CAS# 90-04-0: 5 鎔/day NSRL

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+ N

Risk Phrases:

R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 45 May cause cancer.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

S 28A After contact with skin, wash immediately with plenty of water .

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 104-94-9: 2

CAS# 90-04-0: 3

Canada - DSL/NDSL

CAS# 104-94-9 is listed on Canada's DSL List.

CAS# 90-04-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, D2A.

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# 104-94-9 is listed on the Canadian Ingredient Disclosure List.

CAS# 90-04-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

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.