

Mallinckrodt

Material Safety Data

Emergency Phone Number: 314-982-5000

ANILINE

PRODUCT IDENTIFICATION:

Synonyms: Aminobenzene; aniline oil; phenylamine

Formula CAS No.: 62-53-3

Molecular Weight: 93.12

Chemical Formula: C₆H₇N

Hazardous Ingredients: Not applicable.

PRECAUTIONARY MEASURES

DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. COMBUSTIBLE. CAUSES IRRITATION. MAY CAUSE METHEMOGLOBINEMIA.

Do not breathe vapor.
Avoid contact with eyes, skin and clothing.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.

EMERGENCY/FIRST AID

In all cases call a physician immediately. If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Never give anything by mouth to an unconscious person. IF INHALED, remove to fresh air. If not breathing, give artificial respiration. DO NOT GIVE MOUTH-TO-MOUTH RESUSCITATION. If breathing is difficult, give oxygen. Keep patient warm and at rest. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. SEE SECTION 5.

DOT Hazard Class: Poison-B

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Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 43061.

SECTION 1 Physical Data

Appearance: Colorless, oily liquid. Darkens on exposure to light or air.

Odor: Weakly amine.

Solubility: 3.5 gm in 100 gm water @ 20°C (68°F).

Boiling Point: 184°C (364°F).

Melting Point: -6.2°C (21°F).

Specific Gravity: (water=1): 1.022

Vapor Density (Air=1): 3.22

Vapor Pressure (mm Hg): 0.6 @ 20°C (68°F).

Evaporation Rate: Less than 1.

SECTION 2 Fire and Explosion Information

Fire:

Combustible liquid.

Flashpoint: 70°C (158°F) (CC).

Autoignition temperature: 615°C (1139°F).

Flammable limits in air, % by volume:

lcl: 1.3, ucl: unknown.

Flammable when exposed to heat or flame. Contact with strong oxidizers may cause fire or explosion.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

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. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire.

SECTION 3 Reactivity Data

Stability:

Stable under ordinary conditions of use and storage. Discolors on exposure to light.

Hazardous Decomposition Products:

Highly toxic fumes of nitrogen oxides are released upon decomposition.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities:

Strong acids and strong oxidizers, albumin, solutions of iron, zinc, aluminum, and alkalis. Ignites spontaneously in the presence of red fuming nitric acid, and with sodium.

SECTION 4 Leak/Spill Disposal Information

Ventilate area of leak or spill. Remove all sources of ignition. Clean-up personnel require protective clothing and respiratory protection from vapors. Contain and recover liquid when possible. Collect as hazardous waste and atomize in a suitable RCRA approved combustion chamber, or absorb with vermiculite, dry sand, earth or similar material for disposal as hazardous waste in a RCRA approved facility. Do not flush to sewer!

Reportable Quantity (RQ)(CWA/CERCLA) : 5000 lbs.

Ensure compliance with local, state and federal regulations.

MS DS
SENT TO
SAFETY OFFICER
DATE 1-29-88

NFPA Ratings: Health: 3 Flammability: 2 Reactivity: 0

Effective Date: 11-06-85 Supersedes 12-20-84

ANILINE

SECTION 5 Health Hazard Information

A. EXPOSURE / HEALTH EFFECTS

Inhalation:

Toxic. Affects ability of blood to carry oxygen. Symptoms may include bluish discoloration of lips and tongue, severe headache, nausea, confusion, dizziness, shock, respiratory paralysis, death.

Ingestion:

Toxic. Lethal dose may be as little as one gram. Symptoms of ingestion parallel those of inhalation exposure.

Skin Contact:

May be absorbed through skin. Symptoms of skin absorption parallel those from inhalation exposure. Local contact may cause dermatitis.

Eye Contact:

Vapor is an eye irritant. Splashes may cause corneal damage.

Chronic Exposure:

Aniline is a blood toxin, causing hemoglobin to convert to methemoglobin, resulting in cyanosis. Lengthy or repeated exposures may result in decreased appetite, anemia, weight loss, nervous system affects, and kidney, liver and bone marrow 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.

B. FIRST AID

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not give mouth to mouth resuscitation. CALL A PHYSICIAN IMMEDIATELY.

Ingestion:

If swallowed, induce vomiting immediately by giving two glasses of water, or milk if available and sticking finger down throat. Call a physician immediately. Never give anything by mouth to an unconscious person.

Skin Exposure:

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

Eye Exposure:

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

C. TOXICITY DATA (RTECS, 1982)

Oral rat LD50: 250 mg/kg. Skin rat LD50: 1400 mg/kg. Inhalation mouse LC50: 175 ppm (7 hours). Aquatic Toxicity rating: TLM96: 100-10 ppm. Mutation references cited Irritation eye rabbit 102 mg severe; skin rabbit 500 mg/24H moderate. Carcinogenic determination: limited evidence in experimental animals (IARC 27, 54, 1982). Aniline is listed by the International Agency for Research on Cancer (IARC) in Category 3, i.e., "Cannot be classified as to its carcinogenicity in humans." (IARC, Supplement 4, 1982).

SECTION 6 Occupational Control Measures

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL): 5 ppm (TWA) (skin).
-ACGIH Threshold Limit Value (TLV):
2 ppm (TWA) 5 ppm (STEL) (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 TLV is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or self-contained breathing apparatus.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing from solutions is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area. Provide clean work clothes daily to workers who regularly use this material. Wash hands before eating and do not eat, drink, or smoke in workplace.

SECTION 7 Storage and Special Information

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from oxidizing materials. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. Protect from freezing.

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