



Safety Data Sheet

Version No.: ACG/2015- II

Date of Issue: Mar.19,2015

Section 1 - Chemical Product and Company Identification

MSDS Name: Aniline

Catalog Numbers: ACG511

Synonyms: Aminobenzene; Aminophen; Aniline oil; Benzenamine; Benzene, amino; Phenylamine

Company Identification:

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Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
62-53-3	Aniline	ca. 100	200-539-3

Hazard Symbols: T N

Risk Phrases: 20/21/22 40 48/23/24/25

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 70 deg C. **Warning!** Combustible liquid. Causes digestive and respiratory tract irritation. May cause methemoglobinemia. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause liver and kidney damage. Hygroscopic (absorbs moisture from the air). Light sensitive. May cause central nervous system depression. Harmful if swallowed or absorbed through the skin. Causes severe eye irritation and



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possible eye injury. Causes skin irritation. Possible sensitizer. May cause fetal effects. Dangerous for the environment.

Target Organs: Kidneys, central nervous system, liver, spleen, cardiovascular system, red blood cells, bone marrow, bladder.

Potential Health Effects

Eye: Causes severe eye irritation. May cause lacrimation (tearing), blurred vision, and photophobia. May cause chemical conjunctivitis and corneal damage.

Skin: Causes moderate skin irritation. Harmful if absorbed through the skin. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those of acute inhalation. May cause central nervous system depression, convulsions, coma, and possible death due to respiratory paralysis. May cause cardiac effects such as heart blocks, arrhythmias, shock and possible death due to cardiovascular collapse. Alcohol can intensify the ability of aniline to induce methemoglobinemia.

Inhalation: Effects may be delayed. Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. Aspiration may lead to pulmonary edema.

Chronic: May cause liver and kidney damage. May cause fetal effects. Repeated exposure may cause sensitization dermatitis. Chronic exposure may cause hemolysis of the red blood cells followed by stimulation of the bone marrow. Laboratory experiments have resulted in mutagenic effects. May cause cyanosis - a blue-gray coloring of the skin and lips caused by a lack of oxygen. Animal studies have reported the development of tumors.

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. Do NOT allow victim to rub or keep eyes closed.

Skin: Get medical aid immediately. 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. Cleansing of the entire contaminated area of the body is of utmost importance. Do not administer alcohol in any form. Individuals with liver or kidney disorders, impaired cardiovascular status, or a history of alcoholism may be more susceptible to the effects of this product. Effects may be delayed. If cyanosis is severe, intravenous injection of Methylene blue, 1mg/kg of body weight may be of value.



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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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Use water spray to keep fire-exposed containers cool. Combustible Liquid. Containers may explode when heated.

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Use extinguishing media most appropriate for the surrounding fire.

Flash Point: 70 deg C (158.00 deg F)

Autoignition Temperature: 615 deg C (1,139.00 deg F)

Explosion Limits, Lower:1.30 vol %

Upper: 20.00 vol %

NFPA Rating: (estimated) Health: 3; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Store protected from light. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Poison room locked. Keep away from acids. Material darkens in color on storage. Store protected from moisture. Store protected from light.

Section 8 - Exposure Controls, Personal Protection



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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. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Aniline	2 ppm TWA; skin - potential for cutaneous absorption	100 ppm IDLH	5 ppm TWA; 19 mg/m ³ TWA

OSHA Vacated PELs: Aniline: 2 ppm TWA; 8 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 a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: oily - colorless

Odor: amine-like - characteristic odor

pH: 8.1

Vapor Pressure: 0.49 mm Hg @ 20 deg C

Vapor Density: 3.2 (air=1)

Evaporation Rate:<1 (butyl acetate=1)

Viscosity: 4.435 cp @ 20 deg C

Boiling Point: 184 deg C @ 760.00 mmHg

Freezing/Melting Point:-6 deg C

Decomposition Temperature:Not available.

Solubility: IN WATER: 0.3 G/L (20°C)

Specific Gravity/Density:1.0216g/cm³

Molecular Formula:C₆H₇N

Molecular Weight:93.13

Section 10 - Stability and Reactivity



Chemical Stability: Stable under normal temperatures and pressures. Volatile in steam. Sensitive to light. May discolor on exposure to air and light.

Conditions to Avoid: Incompatible materials, light, ignition sources, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, bases, aluminum, fluorine, formaldehyde, iron, nitric acid, silver perchlorate, sodium peroxide, sulfuric acid, zinc, hydrogen peroxides, ozone, acid anhydrides, chlorosulfonic acid, oleum, perchromates, nitromethane, dibenzoyl peroxide, benzenediazonium-2-carboxylate, boron trichloride, tetranitromethane, trichloronitromethane, diisopropyl peroxydicarbonate, hexachloromelamine, peroxomonosulfuric acid, albumin, iron salts, perchloric acid, nitrobenzene, alkalis, moisture, potassium peroxide, glycerine, fuming nitric acid, N-chloro compounds, N-bromoimides (e.g. n-bromosuccinimide), peroxydisulfuric acid, nitrosyl fluoride, toluene diisocyanate.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 62-53-3: BW6650000

LD50/LC50:

CAS# 62-53-3:

Dermal, guinea pig: LD50 = 1290 mg/kg;

Draize test, rabbit, eye: 102 mg Severe;

Draize test, rabbit, eye: 20 mg/24H Moderate;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Inhalation, mouse: LC50 = 175 ppm/7H;

Oral, mouse: LD50 = 464 mg/kg;

Oral, rat: LD50 = 250 mg/kg;

Skin, rabbit: LD50 = 820 uL/kg;

Skin, rat: LD50 = 1400 mg/kg;<br.

Carcinogenicity:

CAS# 62-53-3:

ACGIH: A3 - Animal Carcinogen

California: carcinogen; initial date 1/1/90

NIOSH: potential occupational carcinogen

IARC: IARC Group 3 - not classifiable

Epidemiology: Oral, rat: TDLo = 11 gm/kg/29W-C (Tumorigenic - neoplastic by RTECS criteria - Kidney, Ureter, Bladder - tumors).; Oral, rat: TD = 72800 mg/kg/2Y-C (Tumorigenic - neoplastic by RTECS criteria - Blood - tumors).

Teratogenicity: Oral, mouse: TDLo = 4480 mg/kg (female 6-13 day(s) after conception) Effects on Newborn - growth statistics (e.g.%, reduced weight gain).

Reproductive Effects: No information available.



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Neurotoxicity: No information available.

Mutagenicity: DNA damage: Intraperitoneal, rat = 105 mg/kg.; Sister Chromatid Exchange: Rat, Liver = 200 umol/L.; Micronucleus Test: Intraperitoneal, mouse = 50 mg/kg.; Mutation in Microorganisms: Mouse, Lymphocyte = 500 umol/L.; Specific Locus Test: Mouse, Lymphocyte = 500 mg/L.; Morphological Transformation: Mouse, Fibroblast = 800 ug/L; Cytogenetic analysis: Hamster, Ovary = 444 mg/L.

Other Studies: Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) S tandard Draize Test: Administration into the eye (rabbit) = 102 mg (Severe). Standard Draize Test: Administration in to the eye (rabbit) = 20 mg/24H (Moderate).

Section 12 - Ecological Information

Ecotoxicity: Bacteria: Phytobacterium phosphoreum: EC50 = 425-488 mg/L; 5,15 min; Microtox test at 14.9-15.1, flea Daphnia: LC50 = 0.10 mg/L; 48 Hr; Unspecified Rainbow trout: LC50 = 8.2 mg/L; Max. exposure = 7 days; Unspecified Bluegill/Sunfish: 1020 ppm; 1 Hr; Unspecified No data available.

Environmental: If released into water it will primarily be lost due to biodegradation and in surface waters, photooxidation (half-life of the order of days). It will not bioconcentrate in fish. If spilled on land it will be lost by a combination of biodegradation, oxidation and chemical binding to components of soil. If released into air, aniline will photodegrade (estimated half-life 3.3 hr).

Physical: No information available.

Other: Dangerous to aquatic life in high concentrations.

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: CAS# 62-53-3: waste number U012 (Ignitable waste, Toxic waste).

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	ANILINE				No information available.



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Hazard Class:	6.1				
UN Number:	UN1547				
Packing Group:	II				

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 62-53-3 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.

SARA

CERCLA Hazardous Substances and corresponding RQs

CAS# 62-53-3: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 62-53-3: 1,000 lb TPQ

SARA Codes

CAS # 62-53-3: acute, chronic, flammable.

Section 313

This material contains Aniline (CAS# 62-53-3, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 62-53-3 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 62-53-3 is listed as a Hazardous Substance 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# 62-53-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

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

Act: WARNING: This product contains Aniline, a chemical known to the state of California to cause cancer. California No Significant Risk Level: CAS# 62-53-3: 100 ug/day NSRL



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European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T N

Risk Phrases:

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 40 Limited evidence of a carcinogenic effect.

R 48/23/24/25 Toxic : danger of serious damage to health by prolonged exposure through inhalation, contact with skin and if swallowed.

Safety Phrases:

S 28 After contact with skin, wash immediately with...

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

WGK (Water Danger/Protection)

CAS# 62-53-3: 2

Canada - DSL/NDSL

CAS# 62-53-3 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D1A, D2A.

Canadian Ingredient Disclosure List

CAS# 62-53-3 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 62-53-3: OEL-ARAB Republic of Egypt:TWA 2 ppm (10 mg/m³);Skin OEL-AUSTRALIA:TWA 2 ppm (10 mg/m³);Skin OEL-AUSTRIA:TWA 2 ppm (8 mg/m³);Skin OEL-BELGIUM:TWA 2 ppm (7.6 mg/m³);Skin OEL-CZECHOSLOVAKIA:TWA 5 mg/m³;STEL 20 mg/m³ JAN9 OEL-DENMARK:TWA 1 ppm (4 mg/m³);Skin OEL-FINLAND:TWA 2 ppm (7.6 mg/m³);STEL 4 ppm (15 mg/m³);Skin;CAR OEL-FRANCE:TWA 2 ppm (10 mg/m³);Skin OEL-GERMANY:TWA 2 ppm (8 mg/m³);Skin;Carcinogen OEL-HUNGARY:TWA 5 mg/m³;STEL 10 mg/m³;Skin OEL-INDIA:TWA 0.2 mg/m³;Skin OEL-JAPAN:TWA 1 ppm (3.8 mg/m³);Skin OEL-THE NETHERLANDS:TWA 5 ppm (19 mg/m³);Skin OEL-THE PHILIPPINES:TWA 5 ppm (19 mg/m³);Skin OEL-POLAND:TWA 5 mg/m³;STEL 20 mg/m³;Skin OEL-RUSSIA:TWA 1 ppm;STEL 0.1 mg/m³;Skin OEL-SWEDEN:TWA 1 ppm (4 mg/m³);STEL 2 ppm (8 mg/m³);Skin OEL-SWITZERLAND:TWA 2 ppm (8 mg/m³);STEL 10 ppm (40 mg/m³);Skin OEL-TURKEY:TWA 5 ppm (19 mg/m³);Skin OEL-UNITED KINGDOM:TWA 2 ppm (10 mg/m³);STEL 5 ppm;Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV



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Section 16 - Additional Information

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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.