Aniline

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Version: 1.4

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product Identifier

Product Form: Substance

Product Name: Aniline

CAS No: 62-53-3

Product Code: VOLO10027

Standard InChI: InChI=1S/C6H7N/c7-6-4-2-1-3-5-6/h1-5H,7H2

1.2. Intended Use of the Product

Use of the substance/mixture: For laboratory research purposes

1.3. Name, Address, and Telephone of the Responsible Party

Manufacturer

Volochem, Inc.
2600 Hilltop Dr.
Bldg B #C211
Richmond, CA 94806
T 510.748.0159
www.volochem.com

1.4. Emergency Telephone Number

Emergency Number : 510-748-0159 (9a-5p M-F)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flammable liquids (Category 4)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 2)
Acute toxicity, Dermal (Category 3)
Skin irritation (Category 2)
Serious eye damage (Category 1)
Skin sensitization (Category 1)
Germ cell mutagenicity (Category 2)
Carcinogenicity (Category 2)
Acute aquatic toxicity (Category 1)

2.2. Label Elements

GHS-US Labeling

Pictogram(s): GHS06, GHS08, GHS05, GHS09

Signal word: Danger

Hazard statement(s)

H227	Combustible liquid.
H301 + H311	Toxic if swallowed or in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

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H318	Causes serious eye damage.
H330	Fatal if inhaled.
H341	Suspect of causing genetic defects.
H351	Suspected of causing cancer.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/ eye protection/ face protection.
P284	Wear respiratory protection.
P301+P330+P310	IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER/doctor.
P321	Specific treatment is urgent.
P302+P352	IF ON SKIN: Wash with plenty of water.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P312	Call a POISON CENTER/doctor if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/ doctor.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P370+P378	In case of fire: Use alcohol-resistant foam, dry chemical, or carbon dioxide to extinguish.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

Use of alcoholic beverages enhances the harmful effect.
The odor warning when the exposure limit value is exceeded is insufficient.
Rapidly absorbed through skin.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name	Synonym(s)	Product Identifiers
Aniline	Aminobenzene; Benzenamine; Arylamine	VOLO10027 CAS No. 62-53-3

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General advice

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Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries After Inhalation:	Blue lips or finger nails. Blue skin. Headache. Dizziness. Labored breathing. Convulsions. Increased heartbeat. Vomiting. Weakness. Unconsciousness. Symptoms may be delayed.
Symptoms/Injuries After Skin Contact:	MAY BE ABSORBED! Redness. (Also see Inhalation).
Symptoms/Injuries After Eye Contact:	Redness. Pain.
Symptoms/Injuries After Ingestion:	See Inhalation.
Chronic Symptoms:	Depending on the degree of exposure, periodic medical examination is indicated. Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the blood, resulting in formation of methaemoglobin.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Cyanosis, headache, vomiting, nausea, incoordination, fatigue, dizziness, drowsiness, confusion, weakness, unconsciousness.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Product is combustible. May release toxic gases under fire conditions.

Explosion Hazard: Product is not explosive.

Hazardous Combustion products: Nitrogen oxides, carbon oxides.

5.3. Advice for Firefighters

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear seltf contained breathing apparatus for firefighting if necessary.

5.4. NFPA Rating

Health hazard:	3
Fire:	2
Reactivity Hazard:	0

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

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Emergency Procedures: Ventilate area. Wear respiratory protection. Avoid breathing vapors, mist or gas. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Collect spillage. Avoid generation of dust during clean-up of spills. Clear up spills immediately and dispose of waste safely.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Light sensitive. Store under inert gas. Handle under inert gas. Protect from moisture.

7.3. Specific End Use(s)

For laboratory research purposes

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Components	CAS-No.	Value	Control Parameters	Basis
Aniline	62-53-3	TWA (skin)	5 ppm 19 mg/m3	USA. OSHA Permissible Exposure Limit
		TWA (skin)	2 ppm 8 mg/3	USA. 1989 OSHA PEL.
		IDLH	100 ppm	NIOSH
		TLV (skin)	2 ppm	ACGIH 1993-1994

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Avoid high vapor concentration. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment: Gloves. Protective goggles. Insufficient ventilation: wear respiratory protection.

Hand Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands

Eye Protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-

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face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin and body protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State:	Liquid
Appearance:	No data available
Odor:	No data available
Odor Threshold:	No data available
pH:	8.8 at 36 g/l at 20 °C (68 °F
Relative Evaporation Rate (butylacetate=1):	No data available
Melting Point:	Melting point/range: -6 °C (21 °F) - lit.
Boiling Point:	184 °C (363 °F) - lit.
Flash Point:	70 °C (158 °F) - closed cup
Auto-ignition Temperature:	540 °C (1,004 °F)
Decomposition Temperature:	No data available
Flammability (solid, gas):	No data available
Vapor Pressure:	0.49 hPa (0.37 mmHg) at 20 °C (68 °F) 0.8 hPa (0.6 mmHg) at 20 °C (68 °F)
Relative Vapor Density at 20 °C:	3.22 - (Air = 1.0)
Relative Density:	1.022 g/mL at 25 °C (77 °F)
Specific Gravity:	No data available
Solubility:	soluble
Log Pow:	0.91
Log Kow:	No data available
Viscosity, Kinematic:	No data available
Viscosity, Dynamic:	No data available
Explosive Properties:	No data available
Oxidizing Properties:	No data available
Explosive Limits:	1.3 % - 23 % (V)

9.2. Other Information

No additional information available

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SECTION 10: STABILITY AND REACTIVITY

10.1.	**Reactivity:**	Hazardous reactions will not occur under normal conditions.
10.2.	**Chemical Stability:**	Product is stable under recommended storage conditions.
10.3.	**Possibility of Hazardous Reactions:**	No data available
10.4.	**Conditions to Avoid:**	Heat, flames and sparks
10.5.	**Incompatible Materials:**	Oxidizing agents, iron and iron salts, zinc, strong acids, copper and copper alloys
10.6.	**Hazardous Decomposition Products:**	Carbon oxides, nitrogen oxides (NOx), ammonia
10.7.	**Thermal Decomposition:**	190 °C

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity: **Oral LD50**

LD50 Oral - rat - 250 mg/kg

Inhalation LC50

LC50 Inhalation - mouse - 4 h - 248 ppm

Dermal LD50

LD50 Dermal - rabbit - 820 mg/kg

Other information on acute toxicity

No data available

Skin Corrosion/Irritation:	Skin - rabbit - Skin irritation - 24 h
Serious Eye Damage/Irritation:	Eyes - rabbit - Severe eye irritation
Target Organs	Blood, Bladder, Kidney, Central nervous system
Respiratory or Skin Sensitization:	May cause allergic skin reaction.
Germ Cell Mutagenicity:	Laboratory experiments have shown mutagenic effects. In vitro tests showed mutagenic effects
Carcinogenicity:	This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Aniline)
Reproductive Toxicity:	No data available
Specific Target Organ Toxicity (Single Exposure):	No data available
Specific Target Organ Toxicity (Repeated Exposure):	No data available
Aspiration Hazard:	No data available
Symptoms/Injuries After Inhalation:	Blue lips or finger nails. Blue skin. Headache. Dizziness. Labored breathing. Convulsions. Increased heartbeat. Vomiting. Weakness. Unconsciousness. Symptoms may be delayed
Symptoms/Injuries After Skin Contact:	MAY BE ABSORBED! Redness. (Further see Inhalation).
Symptoms/Injuries After Eye Contact:	Redness. Pain.
Symptoms/Injuries After Ingestion:	See inhalation.
Chronic Symptoms:	Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the blood , resulting in formation of methaemoglobin.

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 10.96 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 80 - 380 mg/l - 48 h
Toxicity to algae	EC50 - SELENASTRUM - 19 mg/l - 72 h

12.2. Persistence and Degradability

Biodegradability

12.3. Bioaccumulative Potential

No data available

12.4. Mobility in Soil

No data available

12.5. Other Adverse Effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Contact a licensed professional waste disposal service to dispose of this material. Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

14.1.	**UN Number:**	1547
14.2.	**UN Proper Shipping Name:**	Aniline
14.3.	**Transport Hazard Class(es):**	6.1
14.4.	**Packing Group:**	II
14.5.1.	**Marine Pollutant:**	No
14.5.2.	**Reportable Quantity:**	2270 kg
14.6.1.	**Toxic Inhalation Hazard:**	No
14.6.2.	**Mode Specific Comments:**	See below
14.6.2.1.	**Ground Transportation - DOT (US):**	No comments
14.6.2.2.	**Marine Transportation – IMDG:**	EMS-No: F-A, S-A
14.6.2.3.	**Air Transportation - IATA/ICAO:**	No comments

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

TSCA Inventory

Listed

SARA 302 Components

SARA 302. The chemical component Aniline in this material is subject to the reporting requirements of SARA Title IIII, Section 302.

SARA 313 Components

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SARA 313: This material contains the chemical component Aniline with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

15.2. US State Regulations

California Proposition 65 List 2014

WARNING! This product contains a chemical known to the State of California to cause cancer.

Maine Chemicals of High Concern List 2012

Not listed

Massachusetts Right to Know Hazardous Substance List 2014

Listed

New Jersey Right to Know Hazardous Substance List 2010

Listed

Pennsylvania Right to Know Hazardous Substance List 2010

Listed

SECTION 16: OTHER INFORMATION

16.1. Other Classifications

HMIS

Health Hazard:	3
Chronic Health Hazard:	*
Flammability:	2
Physical hazards:	0

16.2. References

International Chemical Safety Card 0011 (Validated May 15, 2001)

Revision date	:	1/3/2015
Other Information	:	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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