Material Data Safety Sheet

NIPISSING UNIVERSITY

Section 1 - Chemical Product and Company Identification

Product/Chemical Name Aniline

Synonym:

Manufacturer/Supplier: Generic (No Company Label)

CANUTEC 24-HR EMERGENCY RESPONSE NUMBER: 613-996-6666

CANUTEC should only be called in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals

Section 2 - Composition/Information on Hazardous Ingredients

+ - **Add/Remove Component**

Component Name	CAS Number	Mol Formula	Mol Wt.	% by Weight
Aniline	62-53-3	C6H7N	93.13	

Section 3 - Hazards Identification

Emergency Overview

Caution! Rapidly absorbed through skin -Combustible Liquid
Highly Toxic - Carcinogen - Moderate skin irritant - Moderate eye irritant - Skin sensitiser - Mutagen
Target Organs: Blood, Bladder, Kidney, Central nervous system

Potential Health Effects

NFPA Rating: Health 3* Flammability 2 Reactivity 0 Oxidizer? No

* denotes additional chronic hazards present

Eyes: Causes eye irritation.

Skin: Toxic if absorbed through skin. Causes skin irritation.

Ingestion: Toxic if swallowed

Inhalation: Toxic if inhaled. Causes respiratory tract irritation

Chronic:

Notes to Physician:

Section 4 - First Aid Measures

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

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

Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.
Skin Contact:	Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician
Ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information:	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away fromheat/sparks/open flame/hot surface. No smoking. Wear self contained breathing apparatus for fire fighting if necessary.
Extinguising Media:	For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
Auto-Ignition Temperature:	No data available Ignition temperature: 540 °C (1,004 °F)
Flash Point:	70 °C (158 °F) - closed cup
Explosion Limits: Lower:	1.3 %(V)
Explosion Limits: Upper:	23 %(V)

Section 6 - Accidental Release Measures

General Information:	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Spills/Leaks:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

Handling Precautions:	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
Storage Requirements:	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. Handle under inert gas. Protect from moisture. Light sensitive.

Section 8 - Exposure Controls / Personal Controls

Engineering Controls:	Use mechanical exhaust or laboratory fumehood to avoid exposure. Safety shower and eye bath.

Ventilation:

Administrative Controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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

Protective Clothing/Equipment: 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).
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.

Safety Stations:

Contaminated Equipment:

Comments: Contributes significantly to the overall exposure by the skin route.
Components /CAS-No. /Value/ Control parameters/ Basis
Aniline / 62-53-3 /TWAE V/ 2 ppm 8 mg/m3 / Canada. Ontario OELs

Section 9 - Physical and Chemical Properties

Physical State:	liquid	Boiling Point	184 °C (363 °F) - lit.
Colour:	N/A	Freezing/Melting Point:	-6 °C (21 °F) - lit.
Odour:	N/A	Decomposition Temperature:	190 °C
pH:	8.8 at 36 g/l at 20 °C (68 °F)	Solubility in Water:	soluble
Vapour Pressure:	0.49 hPa (0.37 mmHg) at 20 °C (68 °F) 0.8 hPa (0.6 mmHg) at 20 °C (68 °F)	Specific Gravity/Density:	1.022 g/cm3 at 25 °C (77 °F)
Vapour Density:	3.22 - (Air = 1.0)	Evaporation Rate:	N/A
Viscocity:	N/A	Other:	

Section 10 - Stability and Reactivity

Chemical Stability: Stable under recommended storage conditions.

Conditions to Avoid: Avoid moisture.
Heat, flames and sparks.

Incompatibility with Other Materials: Oxidizing agents, Iron and iron salts., Zinc

Hazardous Decomposition Products: formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

Hazardous Polymerization: Will Not Occur

Section 11 - Toxicological Information

RETCS#: BW6650000

LD50 / LC50: Acute toxicity
Oral LD50 - rat - 250 mg/kg
Inhalation LC50 - mouse - 4 h - 248 ppm
Dermal LD50 - - rabbit - 820 mg/kg
Other information on acute toxicity - no data available
Skin corrosion/irritation -Skin - rabbit - Skin irritation - 24 h
Serious eye damage/eye irritation - Eyes - rabbit - Severe eye irritation
Respiratory or skin sensitization - May cause allergic skin reaction.
Germ cell mutagenicity - Laboratory experiments have shown mutagenic effects.
In vitro tests showed mutagenic effects
Reproductive toxicity - no data available
Teratogenicity - no data available
Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available
Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available
Aspiration hazard - no data available
Potential health effects -
Inhalation Toxic if inhaled. Causes respiratory tract irritation.
Ingestion Toxic if swallowed.
Skin Toxic if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Signs and Symptoms of Exposure
Symptoms -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, Symptoms may be delayed.
Synergistic effects - no data available

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)

Other: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicology: 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
Persistence and degradability - Biodegradability
Bioaccumulative potential - no data available
Mobility in soil - no data available
PBT and vPvB assessment - no data available
Other adverse effects - An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.

Other: N/A

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, provincial and local regulations. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Contaminated packaging - Dispose of as unused product.

Section 14 - Transportation Information

Canada TDG

Shipping Name: Aniline

Hazard Class: 6.1

UN Number: 1547

Packing Group: II

Section 15 - Regulatory Information

Canadian Regulations

	DSL Status - All components of this product are on the Canadian DSL list. WHMIS Classification - B3/D1A/D2A/D2B Combustible Liquid/ Highly Toxic/Carcinogen/Moderate skin irritant/Moderate eye irritant/ Skin sensitiser /Mutagen This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16 - Other Information

MSDS Creation Date: Mar 13, 2012

Revision Number:

MSDS Revision Date:

Revisions were made to Sections: N/A

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