SAFETY DATA SHEET

Creation Date 24-May-2010 **Revision Date** 21-Jan-2015 **Revision Number** 1

1. Identification

Product Name **4-Chloroaniline**

Cat No. : **AC108590000; AC108590010; AC108590050; AC108590051; AC108591000; AC108595000**

Synonyms 4-Chlorobenzenamine

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Entity / Business Name
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Sensitization	Category 1
Carcinogenicity	Category 1B

Label Elements

Signal Word
Danger

Hazard Statements
Toxic if swallowed
Toxic in contact with skin
May cause an allergic skin reaction
Toxic if inhaled
May cause cancer

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician
Skin
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

3. Composition / information on ingredients

Component	CAS-No	Weight %
p-Chloroaniline	106-47-8	98

4. First-aid measures

Eye Contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Ingestion Call a physician immediately. Clean mouth with water.

Most important symptoms/effects May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Water spray. Carbon dioxide (CO_2). Dry chemical. chemical foam.

Unsuitable Extinguishing Media No information available

Flash Point > 188 °C / > 370.4 °F
Method - No information available

Autoignition Temperature 400 °C / 752 °F

Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products
Hydrogen chloride gas Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO_2)
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment.
Environmental Precautions See Section 12 for additional ecological information. Collect spillage. Avoid release to the environment. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not flush into surface water or sanitary sewer system.

7. Handling and storage

Handling Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only in area provided with appropriate exhaust ventilation.

Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from direct sunlight.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
p-Chloroaniline		TWA: 2 ppm	

		TWA: 10 mg/m³ STEL: 5 ppm STEL: 20 mg/m³	

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection 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 and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection 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.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Solid
Appearance	Light brown
Odor	aromatic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	68 - 72 °C / 154.4 - 161.6 °F
Boiling Point/Range	232 °C / 449.6 °F @ 760 mmHg
Flash Point	> 188 °C / > 370.4 °F
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	0.02 mbar @ 20 °C
Vapor Density	Not applicable
Relative Density	1.169
Solubility	3 g/l in water (20°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	400 °C / 752 °F
Decomposition Temperature	330 °C
Viscosity	Not applicable
Molecular Formula	C6 H6 Cl N
Molecular Weight	127.57

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions. Air sensitive. Light sensitive.

Conditions to Avoid Exposure to air. Exposure to light. Incompatible products.

Incompatible Materials Acids, Strong oxidizing agents, Acid anhydrides, Acid chlorides, Chloroformates

Hazardous Decomposition Products Hydrogen chloride gas, Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
p-Chloroaniline	3000 mg/kg (Rat) 300 mg/kg (Rat)	360 mg/kg (Rabbit) 3200 mg/kg (Rat)	2340 mg/m³ (Rat) 4 h 2.34 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
p-Chloroaniline	106-47-8	Group 2B	Not listed	Not listed	X	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
p-Chloroaniline	Group III Chemical	Not applicable	Not applicable

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
p-Chloroaniline	Not listed	29 - 49.1 mg/L LC50 96 h 1.8 - 3.2 mg/L LC50 96 h 9.7 - 12.5 mg/L LC50 96 h 11.0 - 16.0 mg/L LC50 96 h 7.0 - 18.0 mg/L LC50 96 h 30.6 mg/L LC50 96 h	EC50 = 3.20 mg/L 5 min EC50 = 3.77 mg/L 15 min EC50 = 5.08 mg/L 30 min	0.12 - 0.78 mg/L EC50 48 h

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
p-Chloroaniline	1.83

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN2018
Proper Shipping Name CHLOROANILINES, SOLID
Hazard Class 6.1
Packing Group II

TDG

UN-No UN2018
Proper Shipping Name CHLOROANILINES, SOLID
Hazard Class 6.1
Packing Group II

IATA

UN-No UN2018
Proper Shipping Name CHLOROANILINES, SOLID
Hazard Class 6.1
Packing Group II

IMDG/IMO

UN-No UN2018
Proper Shipping Name CHLOROANILINES, SOLID
Hazard Class 6.1
Packing Group II

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
p-Chloroaniline	X	X	-	203-401-0	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
p-Chloroaniline	106-47-8	98	0.1

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
p-Chloroaniline	1000 lb	-

California Proposition 65 This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
p-Chloroaniline	106-47-8	Carcinogen	1.5 µg/day	Carcinogen

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
p-Chloroaniline	X	X	X	X	-

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class D1A Very toxic materials
D2A Very toxic materials

16. Other information

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Creation Date	24-May-2010
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Print Date	21-Jan-2015
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS