SAFETY DATA SHEET

4-(PHENYLAMINO)ANILINE

Compilation date: 13/09/2011

Revision No: 1

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: 4-(PHENYLAMINO)ANILINE

CAS number: 101-54-2

EINECS number: 202-951-9

Product code: OR6678

Synonyms: 4-AMINODIPHENYLAMINE

N1-PHENYLBENZENE-1,4-DIAMINE

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Company name: Apollo Scientific Ltd

Units 3 & 4

Parkway

Denton

Manchester

M34 3SG

UK

Tel: 0161 337 9971

Fax: 0161 336 6932

Email: david.tideswell@apolloscientific.co.uk

1.4. Emergency telephone number

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: Xn: R22; Xi: R36; Sens.: R43; N: R50

Classification under CLP: Acute Tox. 4: H302; Eye Irrit. 2: H319; Aquatic Acute 1: H400; Skin Sens. 1: H317

Most important adverse effects: Harmful if swallowed. Irritating to eyes. May cause sensitisation by skin contact. Very toxic to aquatic organisms.

2.2. Label elements

Label elements under CLP:

Hazard statements: H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H400: Very toxic to aquatic life.

Signal words: Warning

[cont...]

Hazard pictograms: GHS07: Exclamation mark

GHS09: Environmental

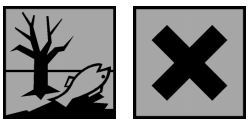
Precautionary statements: P280: Wear protective gloves/protective clothing/eye protection/face protection.

P273: Avoid release to the environment.

Label elements under CHIP:

Hazard symbols: Dangerous for the environment.

Harmful.



Risk phrases: R22: Harmful if swallowed.

R36: Irritating to eyes.

R43: May cause sensitisation by skin contact.

R50: Very toxic to aquatic organisms.

2.3. Other hazards

PBT: This substance is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: 4-(PHENYLAMINO)ANILINE

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

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

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting.

[cont...]

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

4.3. Indication of any immediate medical attention and special treatment needed

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Carbon dioxide, dry chemical powder, foam. Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes. Carbon oxides. Nitrogen oxides (NOx).

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of dust in the air. Only use in fume hood.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed. The floor of the storage room must be impermeable to prevent the escape of liquids. Light Sensitive. Recommended storage temp 2-8 °C.

Suitable packaging: Must only be kept in original packaging.

[cont...]

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: Not applicable.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area. The floor of the storage room must be impermeable to prevent the escape of liquids.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Flakes

Colour: Dark grey

Odour: Aromatic

Solubility in water: 0.05g/100ml at 20°C

Also soluble in: Acetone. Ethanol.

Boiling point/range°C: 354

Melting point/range°C: 68-72

Flash point°C: 193

Vapour pressure: 0.000076 Pa at 20°C

Relative density: 1.09 g/m3

9.2. Other information

Other information: Not applicable.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

10.4. Conditions to avoid

Conditions to avoid: Heat. Light.

[cont...]

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of carbon dioxide / carbon monoxide. Nitrogen oxides (NOx).

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
ORAL	RAT	LD50	464	mg/kg
DERMAL	RBT	LD50	>5000	mg/kg
EYE IRRITATION	RBT	-	moderate	24 h

Relevant hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	ING	Based on test data
Serious eye damage/irritation	OPT	Based on test data
Respiratory/skin sensitisation	DRM	Based on test data

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.

Other information: RTECS: ST3150000

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
FISH (Danio rerio)	96H LC50	1.9	mg/l
Daphnia magna	48H EC50	0.37	mg/l
ALGAE (Desmodesmus subspicatus)	48H EC50	2.4	mg/l

12.2. Persistence and degradability

Persistence and degradability: No data available.

[cont...]

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT identification: This substance is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: Toxic to aquatic organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: MATERIAL SHOULD BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

Disposal of packaging: Dispose of as special waste in compliance with local and national regulations Observe all federal, state and local environmental regulations.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3077

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3. Transport hazard class(es)

Transport class: 9

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes **Marine pollutant:** No

14.6. Special precautions for user

Tunnel code: E

Transport category: 3

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

[cont...]

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

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* Data predicted using computational software. Toxtree - Toxic Hazard Estimation by decision tree approach. http://ecb.jrc.ec.europa.eu/qsar/qsar-tools/index.php?c=TOXTREE

~ Data predicted using computatioanl software ACD/ToxSuite v 2.95.1 Copyright 1994-2009 ACD/labs, Copyright 2001-2009 Pharma Algorithms, Inc, Advanced Chemistry Development, Inc (ACD/Labs). http://www.acdlabs.com/products/pc_admet/tox/tox/

Phrases used in s.2 and 3: H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H400: Very toxic to aquatic life.

R22: Harmful if swallowed.

R36: Irritating to eyes.

R43: May cause sensitisation by skin contact.

R50: Very toxic to aquatic organisms.

Legal disclaimer: The material is intended for research purposes only and should be handled exclusively by those who have been fully trained in safety, laboratory and chemical handling procedures. The above information is believed to be correct to the best of our knowledge. The above information is believed to be correct to the best of our knowledge at the date of its publication, but should not be considered to be all inclusive. It should be used only as a guide for safe handling, storage, transportation and disposal. We cannot guarantee that the hazards detailed in this document are the only hazards that exist for this product. This is not a warranty and Apollo Scientific Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.