



SAFETY DATA SHEET

1. Identification

Product identifier	p-Anisaldehyde	
Other means of identification		
Catalog number	1036937	
CAS number	123-11-5	
Chemical name	4-Methoxybenzaldehyde	
Recommended use	Specified quality tests and assay use only.	
Recommended restrictions	Not for use as a drug. Not for administration to humans or animals.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	U. S. Pharmacopeia	
Address	12601 Twinbrook Parkway Rockville MD 20852-1790 United States	
Telephone	RS Technical Services	301-816-8129
Website	www.usp.org	
E-mail	RSTECH@usp.org	
Emergency phone number	CHEMTREC within US & Canada	1-800-424-9300
	CHEMTREC outside US & Canada	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		
Signal word	Warning	
Hazard statement	Harmful if swallowed. Causes skin irritation. Causes eye irritation.	
Precautionary statement		
Prevention	Wash thoroughly after handling. Wear protective gloves.	
Response	If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.	
Storage	Not available.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	None known.	
Supplemental information	None.	

3. Composition/information on ingredients

Substance

Chemical name	Common name and synonyms	CAS number	%
p-Anisaldehyde		123-11-5	100

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
Most important symptoms/effects, acute and delayed	Irritation of eyes and skin.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General information	Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire fighting equipment/instructions	As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing. Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Absorb spillage with suitable absorbent material. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential.
Conditions for safe storage, including any incompatibilities	Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	For laboratory operations, use good technique and limit open handling. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Skin protection	
Hand protection	Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.
Other	Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors.
Respiratory protection	Respirators are generally not required for laboratory operations. Choose respiratory protection appropriate to the task and the level of existing engineering controls.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Handling practices in this SDS are recommendations for laboratory use of reference standards. Procedures for any other uses or quantities should be determined after an appropriate assessment.

9. Physical and chemical properties

Appearance	Appearance descriptions are general information and not specific to any USP lot.
Physical state	Liquid.
Form	Liquid.
Color	Colourless to light yellow. Translucent.
Odor	Hawthorn odor. Sweet. Floral.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	32 °F (0 °C)
Initial boiling point and boiling range	478.4 - 480.2 °F (248 - 249 °C) (at 760mm Hg)
Flash point	240.8 °F (116.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	1.4 %
Explosive limit - upper (%)	5.3 %
Vapor pressure	0.004 kPa (77 °F (25 °C))
Vapor density	4.7 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	4.4 g/l Slightly soluble.
Solubility (other)	Benzene: Soluble. Chloroform: Soluble. Acetone: Very soluble. Alcohol: Freely soluble. Ether: Freely soluble.
Partition coefficient (n-octanol/water)	1.56 = log Pow 1.76 = log Kow
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	4.1 mPa·s at 25 °C

Other information

Chemical family	Aromatic aldehyde.
Dynamic viscosity	2.3 mPa.s (113 °F (45 °C))
Molecular formula	C8H8O2
Molecular weight	136.16
pH in aqueous solution	7 (2 g/L; 20 °C)
Specific gravity	1.12 at 15 °C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong reducing agents. Strong bases.
Hazardous decomposition products	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Knowledge about health hazard is incomplete.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics	Gastrointestinal disturbances
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Information on toxicological effects

Acute toxicity	Harmful if swallowed.
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Product	Species	Test Results
p-Anisaldehyde (CAS 123-11-5)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Mouse	1859 mg/kg
	Rat	> 2000 mg/kg
		1510 mg/kg

Skin corrosion/irritation	Causes skin irritation.
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Serious eye damage/eye irritation	Causes eye irritation.
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Local effects

48-hour Patch test, 10% applied in petrolatum.
Result: No irritation.
Species: Human
Organ: Skin
72-hour Irritancy test, 20% solution applied to back skin
Result: No irritation.
Species: Human
Organ: Skin
Irritancy (Draize), applied full strength for 24 hours
Result: Moderate irritation.
Species: Rabbit
Organ: Skin

Local effects

Irritancy test
Result: Slight irritation; reversible within 72 hours
Species: Rabbit
Organ: Eye

Respiratory or skin sensitization

Respiratory sensitization Knowledge about health hazard is incomplete.

Skin sensitization Based on available data, the classification criteria are not met.

Human maximization test, applied as 10% solution.

Result: Negative.

Local lymph node assay in mice

Result: Negative.

Germ cell mutagenicity Knowledge about mutagenicity is incomplete.

Mutagenicity

In vitro chromosomal aberration assay in Chinese hamster lung cells

Result: Negative.

In vitro mouse lymphoma studies

Result: Positive.

In vitro sister chromatid exchange assay in Chinese hamster ovary cells

Result: Negative.

In vitro sister chromatid exchange assay in human lymphocytes

Result: Positive.

Reverse mutation in *S. typhimurium* and *E. coli*

Result: Negative.

Carcinogenicity Knowledge about carcinogenicity is incomplete.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Based on available data, the classification criteria are not met.

Reproductivity

0 - 500 mg/kg/day Reproductivity and development study, administered orally.

Result: Fertility index reduced at high dose; no adverse effects on viability, body weight, and morphological appearance of pups.

Species: Rat

Specific target organ toxicity - single exposure Knowledge about health hazard is incomplete.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

100 mg/kg/day NOAEL

Species: Rat

Observation Period: 90 days

Aspiration hazard Knowledge about health hazard is incomplete.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
p-Anisaldehyde (CAS 123-11-5)		
Acute		
Other	EC50	Pseudokirchnerella subcapitata
		61 mg/l, 72 hours

Product		Species	Test Results
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	43 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	83 mg/l, 48 hours
			45 mg/l, 48 hours
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)	148 mg/l, 96 hours
		Medaka, high-eyes (Oryzias latipes)	40 mg/l, 96 hours
<i>Chronic</i>			
Algae	NOEC	Algae	0.65 mg/l, 72 hours
Crustacea	NOEC	Daphnia	0.71 mg/l, 21 days

Persistence and degradability Readily biodegradable.

Bioaccumulative potential

Octanol/water partition coefficient log Kow

1.56, = log Pow

1.76, = log Kow

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

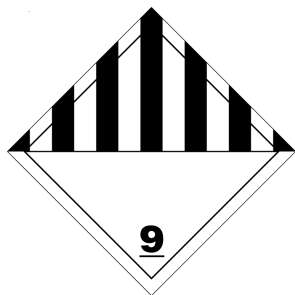
UN number UN3082
UN proper shipping name Environmentally hazardous substances, liquid, n.o.s. (p-Anisaldehyde)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Packaging exceptions 155
Packaging non bulk 203
Packaging bulk 241

IATA

UN number UN3082
UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (p-Anisaldehyde)
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III
Other information
Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only
Transport in bulk according to
Annex II of MARPOL 73/78 and
the IBC Code
DOT; IATA

Allowed with restrictions.
Not established.



General information

It is the shipper's responsibility to determine the correct transport classification at the time of shipment.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region

Australia

Inventory name

Australian Inventory of Chemical Substances (AICS)

On inventory (yes/no)*

Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	11-18-2013
Revision date	05-19-2020
Version #	04
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