SAFETY DATA SHEET

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

1.1 Product identifiers

	Product name	:	4-Fluorophenol
	CAS-No.	:	371-41-5

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

	Identified uses	:	Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the safety data sheet

	Company	:	Inventys Research Company Pvt LtdD- 514, Kanakia Zillion, BKC Annex, (LBS Road Junction, CST Road, Near Kurla Bus Depot), Kurla West, Mumbai 400070. INDIA Tel:+91.22.714.00.200 Fax:+91.22.714.00.299 www.Inventys.In

1.4 Emergency telephone number

	Emergency Phone #	:	+91 22.714.00.200

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word Warning

Hazard statement(s)
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements: None

Reduced Labeling (<= 125 ml)

Pictogram

Signal word Warning

Hazard statement(s): none

Precautionary statement(s): none

Supplemental Hazard Statements : none

2.3 **Other hazards:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 **Substances**

	Synonyms.	:	4-fluorophenol
	Formula	:	C_6H_5FO
	Molecular weight	:	112,10 g/mol
	CAS-No	:	371-41-5
	EC Number	:	206-736-0

Component	Classification	Concentration
4-fluorophenol		
CAS-No.: 371-41-5 EC-No.: 206-736-0	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302, H315, H319, H335	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 **Description of first aid measures**

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

	If swallowed After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
4.2	**Most important symptoms and effects, both acute and delayed**
	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3	**Indication of any immediate medical attention and special treatment needed**
	No data available
SECTION 5: Firefighting measures	
5.1	**Extinguishing media**
	Suitable extinguishing media Water Foam Carbon dioxide (CO2) Dry powder. **Unsuitable extinguishing media** For this substance/mixture no limitations of extinguishing agents are given.
5.2	**Special hazards arising from the substance or mixture**
	Carbon oxides Hydrogen fluoride Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.
5.3	**Advice for firefighters**
	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
5.4	**Further information**
	Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
SECTION 6: Accidental release measures	
6.1	**Personal precautions, protective equipment and emergency procedures**
	Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
6.2	**Environmental precautions**
	Do not let product enter drains.
6.3	**Methods and materials for containment and cleaning up**
	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
6.4	**Reference to other sections**
	For disposal see section 13.

SECTION 7: Handling and storage	
7.1	**Precautions for safe handling**
	Advice on protection against fire and explosion Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. **Hygiene measures** Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
7.2	**Conditions for safe storage including any incompatibilities**
	Storage conditions Tightly closed. Dry.
7.3	**Specific end use(s)**
	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
SECTION 8: Exposure controls/personal protection	
8.1	**Control parameters** **Ingredients with workplace control parameters**
8.2	**Exposure controls**
	Personal protective equipment **Eye/face protection** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses **Skin protection** This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L **Body Protection** Flame retardant antistatic protective clothing.

	Respiratory protection Recommended Filter type: Filter B-(P3) The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. **Control of environmental exposure** Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

	a) Appearance	Form: solid
	b) Odor	No data available
	c) Odor Threshold	No data available
	d) pH	No data available
	e) Melting point/ freezing point	Melting point/range: 43 - 46 °C - lit.
	f) Initial boiling point and boiling range	185 °C - lit.
	g) Flash point	68 °C - c.c.
	h) Evaporation rate	No Data Available
	i) Flammability (solid, gas)	No Data Available
	j) Upper/lower flammability or explosive limits	No Data Available
	k) Vapor pressure	No Data Available
	l) Vapor density	No Data Available
	m) Relative density	No Data Available
	n) Water solubility	No Data Available
	o) Partition coefficient: n octanol/water	No Data Available
	p) Auto-ignition temperature	No Data Available
	q) Decomposition temperature	No Data Available
	r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
	s) Explosive properties	No Data Available
	t) Oxidizing properties	No Data Available

9.2	**Other safety information**
	No data available

SECTION 10: Stability and reactivity

10.1	**Reactivity**
	Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical. The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
10.2	**Chemical stability**
	The product is chemically stable under standard ambient conditions (room temperature) .
10.3	**Possibility of hazardous reactions**
	Violent reactions possible with: Oxidizing agents strong alkalis Strong acids Acid anhydrides acid halides
10.4	**Conditions to avoid**
	Strong heating.
10.5	**Incompatible materials**
	No data available
10.6	**Hazardous decomposition products**
	In the event of fire: see section 5

SECTION 11: Toxicological information

11.1	**Information on toxicological effects**
	Acute toxicity LD50 Oral - Rat - 340 mg/kg Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Remarks: (External MSDS)absorption Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract **Skin corrosion/irritation** **Serious eye damage/eye irritation** **Respiratory or skin sensitization** **Germ cell mutagenicity** **Carcinogenicity** No data available **Reproductive toxicity** **Specific target organ toxicity - single exposure** May cause respiratory irritation. **Specific target organ toxicity - repeated exposure** **Aspiration hazard**

11.2	**Additional Information** RTECS: SL4550000 Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1	**Toxicity**
	Toxicity to daphnia and other aquatic invertebrates EC50 - Tetrahymen pyriformis - 107 mg/l - 48 h Remarks: (ECOTOX Database) Toxicity to bacteria microtox test EC50 - Photobacterium phosphoreum - 19,5 mg/l - 30 min
12.2	**Persistence and degradability**
12.3	**Bio accumulative potential**
12.4	**Mobility in soil**
12.5	**Results of PBT and vPvB assessment**
	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6	**Other adverse effects**
	Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1	**Waste treatment methods**
	Product See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1	**UN number**		
	ADR/RID:	IMDG:	IATA:
14.2	**UN proper shipping name**		
	ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods		
14.3	**Transport hazard class(es)**		
	ADR/RID:	IMDG:	IATA:
14.4	**Packing Group**		
	ADR/RID:	IMDG:	IATA:
14.5	**Environmental Hazards**		
	ADR/RID: no	IMDG Marine pollutant: no	IATA: no

14.6	Special Precautions for User
	Further information Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances: Not applicable

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Relevant changes since previous version
2. Hazards identification

Further information

 The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.
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