



Arch Chemicals, Inc.

**MATERIAL
SAFETY DATA**

FOR ANY EMERGENCY, CALL 24HOURS/ 7 DAYS:	1-800-654-6911
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC(R):	1-800-424-9300
FOR ALL MSDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS

PRODUCT NAME: **OPD 4262**

I. PRODUCT AND COMPANY IDENTIFICATION

REVISION DATE: 03-19-2002
SUPERCEDES: 02-16-2001
MSDS NO: 00551-0261 - 844267
SYNONYMS: None
CHEMICAL FAMILY: Organic base
DESCRIPTION / USE: Positive resist developer
FORMULA: Not applicable/Mixture

Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204

II. COMPOSITION/INFORMATION ON INGREDIENTS

CAS or CHEMICAL NAME	CAS #	% Range
Tetramethylammonium hydroxide	75-59-2	>1 - 3.5

III. HAZARDS IDENTIFICATION

OSHA Hazard Classification: corrosive to eyes, eye hazard, skin irritant, lung toxin, toxic by ingestion

Routes of Entry: Inhalation, skin, eyes, ingestion
Chemical Interactions: No known interactions
Medical Conditions Aggravated: Respiratory diseases including asthma and bronchitis, cardiovascular disease

Human Threshold Response Data

Odor Threshold: Not established
Irritation Threshold: Not established

Hazardous Materials Identification System/National Fire Protection Association Classifications

<u>Hazard Ratings:</u>	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
HMIS	3*	0	1
NFPA	Not established		

Immediate (Acute) Health Effects

Inhalation Toxicity:	May cause lung damage with high acute exposure.
Inhalation Irritation:	Can cause severe irritation resulting in symptoms which may include coughing, wheezing, choking, shortness of breath, chest pain, and temporary impairment of lung function. If exposure is sufficient, impairment of lung function may be permanent.
Skin Contact:	Skin contact may cause irritation consisting of transient redness and swelling. Prolonged exposure may cause scab formation.
Skin Absorption:	May cause systemic toxicity.
Eye Contact	Corrosive. Burns can occur following exposure. Direct contact may cause impairment of vision, corneal damage and/or blindness. Rinsing of the eye should take place immediately.
Ingestion Irritation:	Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding, and/or tissue ulceration or perforation. Aspiration may lead to lung damage.
Ingestion Toxicity:	May be harmful or fatal if swallowed.
Acute Target Organ Toxicity:	Eyes, Lungs, Skin

Prolonged (Chronic) Health Effects

Carcinogenicity:	This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.
Reproductive and Developmental Toxicity:	No reproductive or developmental risk to humans is expected from exposure to this product.
Inhalation:	Prolonged or repeated inhalation may cause lung damage.
Skin Contact:	There are no known or reported effects from chronic exposure except for effects (if any) similar to those experienced from acute exposure.
Skin Absorption:	There are no known or reported effects from chronic exposure except for effects (if any) similar to those experienced from acute exposure. Prolonged or repeated exposure may be fatal.
Ingestion:	There are no known or reported effects from chronic ingestion except for effects similar to those experienced from single exposure. The acute corrosivity of this product, makes chronic ingestion of significant amounts unlikely.
Chronic Target Organ Toxicity:	Lungs, Eyes, Skin
Supplemental Health Hazard Information:	No additional health information available.

IV. FIRST AID

Inhalation:	IF INHALED: Remove individual to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
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Skin Contact: IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. Remove and double-bag contaminated clothing while flushing exposed skin and hair with water. Call a physician immediately. Small quantities left on the skin may be harmful or fatal if not promptly washed off.

Eyes: IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Call a physician immediately.

Ingestion: IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Drink a large quantity of water to dilute. Never give anything by mouth to an unconscious person.

V. FIRE FIGHTING MEASURES

Flammability Summary (OSHA): Product is not known to be flammable, combustible, pyrophoric or explosive.

Flammable Properties

Flash Point: None

Autoignition Temperature: Not applicable

Upper Flammable/Explosive Limit, % in air: Not applicable

Lower Flammable/Explosive Limit, % in air: Not applicable

Fire/Explosion Hazards: Material will not ignite or burn. This material is not expected to burn unless all the water is boiled away. The remaining compounds may be ignitable.

Extinguishing Media: Not Applicable. - Choose extinguishing media suitable for surrounding materials.

Fire Fighting Instructions: Response to this material requires the use of a full encapsulated suit and full-face (NIOSH approved) self-contained breathing apparatus (SCBA). Use water to cool containers.

Hazardous Combustion Products: carbon dioxide, carbon monoxide, Oxides of nitrogen

VI. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus.

Spill Mitigation Procedures

Air Release: Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

Water Release: This material has approximately the same density as water. This material is soluble in water. Notify all downstream users of possible contamination. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

Land Release: Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container.

Additional Spill Information: Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section XIII, Disposal Consideration. This material may be neutralized for disposal; you are requested to contact Arch Chemicals at 1- 800-654-6911 before beginning any such procedure.

VII. HANDLING AND STORAGE

Handling: Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing (dust, vapor, mist, gas). Keep container closed when not in use. Use only with adequate ventilation.

Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Store in a tightly closed container.

Shelf Life Limitations: See label or certificate of analysis for shelf life if applicable.

Incompatible Materials for Storage: Refer to Section X, "Incompatible Materials."

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation: Local exhaust ventilation or other engineering controls are necessary when handling or using this product. Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

Protective Equipment for Routine Use of Product

Respiratory Protection: Wear a NIOSH approved respirator if any exposure occurs.
Respirator Type(s): NIOSH approved full-face air purifying respirator with ammonia cartridge and dust/mist filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit. Alternative respirator: NIOSH approved full-face positive pressure supplied-air respirator

Skin: Wear impervious gloves, boots and apron to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eyes: Use chemical goggles and a faceshield.

Protective Clothing Type: Impervious

Other PPE: An eye wash and safety shower should be provided in the immediate work area. Wear the following impervious coverall material: Tyvek/Saranex

Exposure Limit Data

CHEMICAL NAME	CAS #	OSHA PEL / STEL	ACGIH LIMITS	ACGIH WEEL
No data				

CHEMICAL NAME NIOSH Immediately Dangerous to Life or Health:
The IDLH has not been established for this product.

IX. PHYSICAL DATA

Physical State: clear liquid
Color: colorless
Odor: mild Ammonia
Molecular Weight: Not Applicable/Mixture

Overview: Because of the high pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Ecological Toxicity Values:

Tetramethylammonium hydroxide BOD 5 days = 80 mg of oxygen per kg. of compound
BOD 20 days = 27200 mg of oxygen per kg. of compound
Daphnia magna, 48 hr. EC50: = 55 ppm

XIII. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary: Spent or discarded material may be a hazardous waste.
Potential US EPA Waste Codes: D002
Disposal Methods: As a hazardous liquid waste, it must be disposed of in accordance with local, state and federal regulations in a permitted hazardous waste treatment, storage and disposal facility by treatment.

Components subject to land ban restrictions: Tetramethylammonium hydroxide (D002)

XIV. TRANSPORTATION INFORMATION

THIS MATERIAL IS REGULATED AS A DOT HAZARDOUS MATERIAL.

DOT Description (49 CFR 172.101):

Land (U.S. DOT): CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (CONTAINS TETRAMETHYLAMMONIUM HYDROXIDE) , 8 , UN3267 , PGIII

Air (IATA/ICAO): CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Contains TETRAMETHYLAMMONIUM HYDROXIDE) 8, UN 3267, PG III

Water (IMO): CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Contains TETRAMETHYLAMMONIUM HYDROXIDE) 8, UN 3267, PG III
Flash Point: (C) >61

Hazard Label/Placard: (Primary) CORROSIVE

Emergency Response Guide Number: 153

XV. REGULATORY INFORMATION

UNITED STATES:

Toxic Substances Control Act (TSCA): The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

Pesticide acceptance indication: US EPA Registration Number: Not applicable

Superfund Amendments and Reauthorization Act (SARA) Title III:

Hazard Categories Sections 311/312 (40 CFR 370.2):

Health: Acute
Physical: None

Emergency Planning & Community Right to Know (40 CFR 355, App. A):

Extremely Hazardous Substance Section 302 - Threshold Planning Quantity:

Not applicable

Reportable Quantity (40 CFR 302.4):

None listed

Supplier Notification Requirements (40 CFR 372.45), 313 Reportable Components

No 313-listed chemicals in this product

State Right-to-Know Regulations Status of Ingredients

Pennsylvania: Not listed

New Jersey: Tetramethylammonium hydroxide

Massachusetts: Not listed

XVI. ADDITIONAL INFORMATION

MSDS REVISION

STATUS:

Section(s) Revised: Sections II and XV (EU classifications)

MAJOR REFERENCES:

- Report on DOT Test For Skin Corrosivity, LSI Developer. MB Research Laboratories, Inc., Spinnerstown, PA, Project # 92-1203C, 3/4/92.

Other references available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.