



Environmental Health & Safety

Owner C.H.O	DOC. NO. SOP	REV. 2	DATE 12/9/2019
DOC. TITLE SOP FOR P-NITROANILINE			

STANDARD OPERATING PROCEDURES (SOP) FOR WORKING WITH P-Nitroaniline AT AMHERST COLLEGE

General Information

P-Nitroaniline, also known as 4-Nitroaniline, is a bright yellow powdered solid with a slight ammonia-like odor. It is classified as an **acutely toxic** compound and hence, special procedures must be in place in regards to handling, use, and disposal of this chemical.

P-Nitroaniline is used in the manufacturing of dyes, pharmaceuticals, gasoline, and pesticide; it is commonly used in the laboratory in spectroscopy and to teach basic organic separation techniques, such as extraction, due its bright yellow color

Personal Protective Equipment

When working with P-Nitroaniline, the following personal protective equipment (PPE) **must** be worn:

Splash goggles

Lab coat

Long pants

Close toed shoes

Nitrile Gloves – Double-gloving is recommended when using this compound. Change gloves upon contact (dispose of gloves in a separate container, as P-coded waste)

Safety Devices

Fume hood – always work with P-Nitroaniline in a fume hood to prevent exposure by inhalation

Identify the location of all the safety devices in the room before starting your procedure. Also, familiarize yourself with all the possible means of egress

Specific Health Hazards



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Note that P-Nitroaniline has a very low exposure limit: $3\text{mg}/\text{m}^3$ - Time Weighted Average, TWA. This means that lab personnel shall not be exposed to more than $3\text{mg}/\text{m}^3$ of P-Nitroaniline, over an 8-hour workday, on average

Short term exposure to P-Nitroaniline may cause eye irritation, the formation of methaemoglobin (which affects the blood's ability to transport oxygen), headache, and paleness.

Long term exposure may lead to liver damage, as well as, gene mutation.



Pictogram:

Hazards: toxic, specific organ toxicity, mutagen

Routes of Entry

Inhalation, skin/eye contact, ingestion

If *any part of your body* comes in contact with P-Nitroaniline, call the Amherst College Emergency phone number 413-542-2111. Also call this number if you begin to feel ill after working with or in the vicinity of P-Nitroaniline

Inhalation

If inhaled, move to fresh air, and get help. If you begin to feel ill during / after working with P-Nitroaniline, Call the Amherst College Police Department (ACDP) at x2111 to report it

Eye contact

Use eyewash to flush eyes with water for at least 15 minutes

Skin Contact

Wash skin with plenty of water for 15 minutes. Use safety shower, if needed.

If contact with clothes or shoes, remove contaminated clothing – (**do not leave the building with contaminated clothing**); contact Chemical Hygiene Officer or your department safety personnel

Ingestion

Rinse mouth with plenty of water

Do not induce vomiting

Do not perform mouth-to-mouth



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Storage and Special Handling

Store in a tightly closed container in a cool, dry area that is well ventilated, such as a vented flammable cabinet

Store in original container inside of a secondary container with a lid

Label containers with the words: "Danger" and "Acutely Toxic"

Do not store on shelf

Store away from: oxidizers, reducing agents, heat sources, strong acids, moisture

If you have P-Nitroaniline that you no longer need, please contact Jason Williams, x2736, for disposal

Special Handling

In the presence of moisture, P-Nitroaniline may cause heating and spontaneous combustion or organic and combustible materials

Thoroughly wash hands with soap and water before leaving the lab

Do not handle cell phones or other devices while working with this product

Do not touch skin while/after using this product unless hands have been thoroughly washed

Limit the touching of surfaces, clothing, body, personal items, door handles, lab materials while using this product

Spill clean up

Please do not attempt to clean up a P-Nitroaniline spill (regardless of volume or concentration) as this is an acutely hazardous compound

Contact Jason Williams (x2736) or call the emergency phone number, x2111 to report any spills of this compound

Alert everyone in the area

Leave the room

Close the door behind you



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Call Jason Williams (Chemical Hygiene Officer) or The Amherst College emergency number (x2111) to report it.

Disposal

Gloves, disposable pipets, pipet tips, Kim wipes, and other disposable materials that come in contact with P-Nitroaniline shall be disposed of separately from other waste (as P-coded Waste)

P-Nitroaniline waste should be disposed of by itself unless it is mixed with other chemicals. All dry waste of these compounds must be disposed of in a container **that has a liner.**

If you have P-Nitroaniline that you no longer need or if you have questions about waste disposal, contact the Chemical Hygiene officer

Questions

Contact Jason Williams or Environmental Health and Safety if you have any questions about this SOP or this compound.