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## Information and recommendations for first responders

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- Patients whose clothing or skin is contaminated with aniline can secondarily contaminate rescue and medical personnel by direct contact or through evaporation of aniline.
  - Aniline is rapidly absorbed after inhalation and ingestion as well as through intact skin.
  - Aniline can induce changes in the red blood cells or cause their destruction, which impairs the delivery of oxygen to tissues. Depression of the central nervous system and cardiovascular collapse may result.
  - Immediate treatment for aniline overexposure consists of cardiorespiratory support and intravenous administration of the antidote toluidine blue. If toluidine blue is not available, methylene blue is the recommended antidote.
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### 1. Substance information

Aniline (C<sub>6</sub>H<sub>5</sub>NH<sub>2</sub>), CAS 62-53-3

Synonyms include aminobenzene, aminophen, benzenamine, and phenylamine.

At room temperature, aniline has a low vapor pressure and is a clear to slightly yellow, oily liquid that darkens to brown color on exposure to air. It is slightly soluble in water. Aniline has an aromatic or fishy odor.

Aniline is synthesized by catalytic hydrogenation of nitrobenzene or by ammonolysis of phenol. It is used in the synthesis of a variety of products including polyurethane foam, photographic developers, rubber, dyes, and crop protection products.

### 2. Routes of exposure

#### *Inhalation*

**Inhaled aniline is rapidly and significantly absorbed from the lungs, leading to systemic toxicity.** Aniline's odor usually provides an adequate warning of hazardous concentrations. Aniline vapor is heavier than air and may cause asphyxiation in poorly ventilated, low-lying or enclosed spaces.

#### *Skin/eye contact*

Contact with liquid aniline usually causes only mild irritation of the eyes. **However, liquid aniline or aniline vapor are absorbed very well through the skin and may cause systemic toxicity.**

#### *Ingestion*

Involuntary ingestion of aniline is unlikely. Ingestion can lead rapidly to severe systemic toxicity.

### 3. Acute health effects

**Aniline can induce changes in the red blood cells or cause their destruction, which impairs the delivery of oxygen to tissues.** These effects may lead to irregular heart rhythm, acute lack of oxygen in different organs, and cardiovascular collapse.

Early signs of aniline overexposure are gray to bluish skin, headache, dizziness, rapid heart rate, shortness of breath.

Aniline exposure usually causes only mild eye, nose, and throat irritation.

### 4. Actions

#### *Rescuer self-protection*

**If the zone which has to be entered by the rescuer is suspected of containing aniline in response situations that involve exposure to potentially unsafe levels of aniline vapor (concentration of 10 ppm or greater) or contact with liquid aniline, pressure-demand, self-contained breathing apparatus and chemical-protective clothing shall be worn; do not use equipment that is contaminated itself.**

Use appropriate protective gloves, e.g. butyl rubber gloves or latex gloves (thickness greater than 1 mm, **not** those smaller ones commonly used by health personal).

Rescuer exposure to a concentration lower than 10 ppm might be accepted without protective measures only for acute rescue operations. Patients whose clothing or skin is contaminated with aniline may secondarily contaminate rescue and medical personnel by direct contact or through evaporation of aniline.

## *Patient recovery*

Patients should be removed from the contaminated zone immediately. Patients who are unable to walk may be removed on backboards or stretchers; if these are not available, carefully remove/transport patients with appropriate action to a safe zone, taking into account your self-protection.

Immediate priorities must follow the "**A, B, C's**" of resuscitation:

- A) Airway** (make sure the airway is not blocked by the tongue or a foreign body)
- B) Breathing** (check to see if the patient is breathing, provide ventilations with use of appropriate barrier devices, e.g. with a pocket face mask, if breathing is absent)
- C) Circulation** (start CPR in any unresponsive person with absent or abnormal breathing)

## *Decontamination*

Patients exposed only to aniline vapor who have no evidence of eye irritation do not need decontamination. All others require decontamination.

Patients who are able and cooperative may assist with their own decontamination. If the exposure involved liquid aniline and if clothing is contaminated, remove and double-bag the clothing.

**Irrigate exposed or irritated eyes with plain water or saline for at least 15 minutes.** Remove contact lenses if present and easily removable without additional trauma to the eye. Continue other basic care during flushing.

**Flush exposed skin and hair with soap and water for at least 15 minutes.** Protect eyes during flushing of skin and hair. Continue other basic care during flushing.

## *Further actions*

**Each potentially exposed person should seek immediate medical advice and treatment.**

In this document BASF has made a diligent effort to ensure the accuracy and currency of the information presented but makes no claim that the document comprehensively addresses all possible situations related to this topic. This document is intended as an additional resource for first responders in assessing the condition and managing the treatment of patients exposed to aniline. It is not, however, a substitute for the judgement of a first responder and must be interpreted in the light of specific information regarding the patient available to such a first responder and in conjunction with other sources of authority.

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