



Picric Acid

General Information

Key Points

- also known as carbazotic acid and picronic acid
- colourless to yellow crystalline solid with a bitter taste highly explosive when dry
- may be released into the environment during its production and use; uses include in laboratories as a chemical reagent, as an explosive and in the production of batteries and matches
- exposure is most likely to occur in an occupational setting; general public unlikely to be exposed to picric acid at concentrations that cause adverse health effects
- toxic via inhalation and ingestion and by contact with the skin and eyes
- inhalation may cause cough, sore throat and lung irritation
- ingestion may cause severe stomach upset and ulcers of the mouth and digestive tract
- skin contact with picric acid can cause irritation and yellow staining of the skin
- eye contact can result in irritation and eye damage
- other effect from inhalation or ingestions may include dizziness, headache, weakness and high temperature; in very severe cases kidney and liver damage, fitting and coma can occur

Public Health Questions

What is picric acid?

Picric acid is a colourless to yellow crystalline solid with a bitter taste. It is highly explosive when dry. Other names for picric acid are carbazotic acid, picronitric acid and TNP.

What is picric acid used for?

Picric acid is used in laboratories as a chemical reagent. It has been used as an explosive and in the production of batteries. It has also been used in the leather and textile industry and in the production of coloured glass and dyes. In the 20th century it was used as an antiseptic in medical ointments to treat wounds including burns.

How does picric acid get into the environment?

Picric acid may enter the environment during its production and use.

How might I be exposed to picric acid?

Exposure to picric acid is most likely to occur in an occupational setting via breathing in picric acid dust or fumes and via skin contact. However, safe limits are enforced to protect the employees; such levels are below those that are thought to cause harmful effects.

The general public is unlikely to be exposed picric acid at concentrations that cause adverse health effects.

If I am exposed to picric acid how might it affect my health?

The presence of picric acid in the environment does not always lead to exposure. In order for it to cause any adverse health effects you must come into contact with it. You may be exposed to picric acid by breathing or eating it or by skin contact with it. Following exposure to any chemical, the adverse health effects you may encounter depend on several factors, including the amount to which you are exposed (dose), the way you are exposed, the duration of exposure, the form of the chemical and if you were exposed to any other chemicals.

Breathing in picric acid dust or fumes can cause sore throat and lung irritation. Ingestion may cause severe stomach upset and ulcers. Picric acid can also be absorbed into the body following inhalation or ingestion causing dizziness, headache, and weakness. In severe cases fitting and coma can occur. Exposure to high concentrations can result in yellow staining of the skin and hair and in some cases yellow tinted vision.

Skin contact with picric acid can cause irritation and yellow staining of the skin. Eye contact may result in irritation and damage to the eye.

Can picric acid cause cancer?

There are no data on whether picric acid causes cancer in humans.

Does picric acid affect pregnancy or the unborn child?

Due to lack of data it is not possible to assess the reproductive and developmental effects of picric acid. It is unlikely that exposure to low concentrations of picric acid which do not affect the mother would result in harm to the unborn child.

How might picric acid affect children?

Children exposed to picric acid are expected to show same symptoms as exposed adults.

What should I do if I am exposed to picric acid?

It is very unlikely that the general population will be exposed to a level of picric acid high enough to cause adverse health effects. However, if you have any health concerns regarding exposure to picric acid seek guidance from your GP or contact NHS 111.

Additional sources of information

NHS Choices - Poisoning <http://www.nhs.uk/Conditions/Poisoning/Pages/Introduction.aspx>

NHS Choices – How do I deal with minor burns? <http://www.nhs.uk/chq/Pages/1047.aspx>

UKTIS. Best Use of Medicines in Pregnancy <http://www.medicinesinpregnancy.org/>

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