

Chemical Agents that are Reproductive Toxicants

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Introduction

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Identification

3



Route

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Replacement

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Preventive measures

In general, **chemical agents that are reproductive toxicants can only be marketed if authorised.**

1

Objective:

To identify chemical agents that are reproductive toxicants, learn the routes into the body, and find out how to protect yourself when handling them.

2

Area of application: laboratories and workshops in which chemical agents that are reproductive toxicants are handled.

3

What is a chemical agent that is toxic to reproduction?

It is a substance or mixture of substances that **causes birth defects.**

4

Classifications:

Category 1A

Substances that **are known** to be reproductive toxicants for humans, based on the existence of **human evidence.**

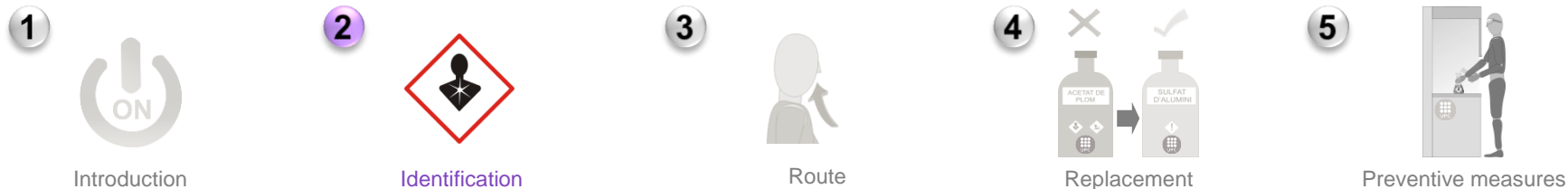
Category 1B

Substances that **are known** to be reproductive toxicants for humans, based on the existence of **animal evidence.**

Category 2

Substances that **are suspected** of being toxic to human reproduction.

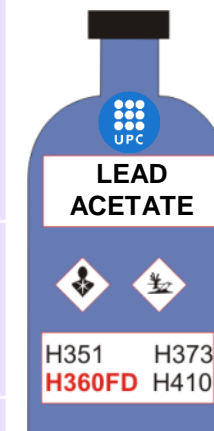
Chemical Agents that are Reproductive Toxicants



To identify chemical agents that are reproductive toxicants, **consult the label and/or the safety data sheet (SDS)**

Consult point 2 on the identification of hazards in the corresponding safety data sheet (SDS), which provides the information required to identify a chemical agent that is a reproductive toxicant.

Category	Pictogram	Signal word	Indications of hazards	H-phrase	R*-phrase
1A or 1B		Danger	May damage fertility or the fetus May damage fertility May damage the fetus May damage fertility. May damage the fetus May damage fertility. Suspected of damaging the fetus May damage the fetus. Suspected of damaging fertility	H360 H360F H360D H360FD H360Fd H360Df	R60 R61 R60/61 R60/63 R61/62
2		Warning	Suspected of damaging fertility or the fetus Suspected of damaging fertility Suspected of damaging the fetus Suspected of damaging fertility. Suspected of damaging the fetus	H361 H361f H361d H361fd	R62 R63 R62/63
Additional category for effects on or via lactation	No pictogram	No signal word	May cause harm to breast-fed children	H362	R64



* Specific risks attributed to dangerous substances and preparations, according to RD363/1995 and RD255/2003

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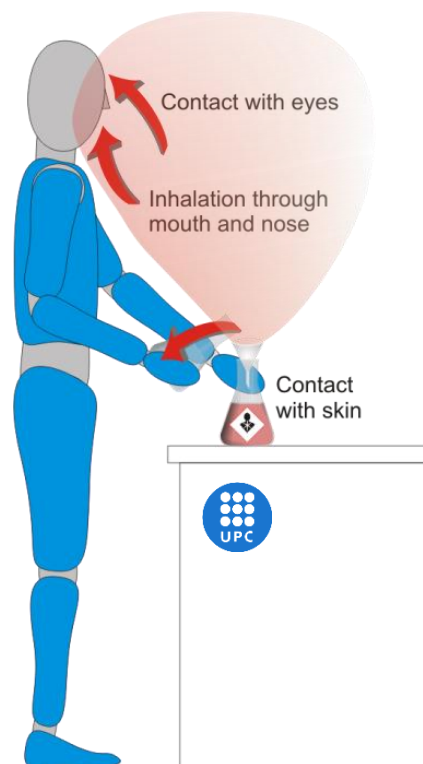


Preventive measures

Routes are the ways that chemical agents enter the organism. The main route is respiratory.

RESPIRATORY ROUTE

The route into the body for any chemical agent that is in the air in the form of a gas, vapour, fumes, powder, fibre, etc. that is taken into the lungs when the individual breathes in – **inhales the surrounding air through the nose or mouth**. Depending on the volume and shape of the particles, they will reach different distances along their passage through the respiratory system.



DERMAL ROUTE

The route for chemical agents that, when they come into **contact with the skin**, can cross it and reach the blood. The blood then distributes the chemicals around the body. Contact with eyes (irritation, etc.) is part of this route.

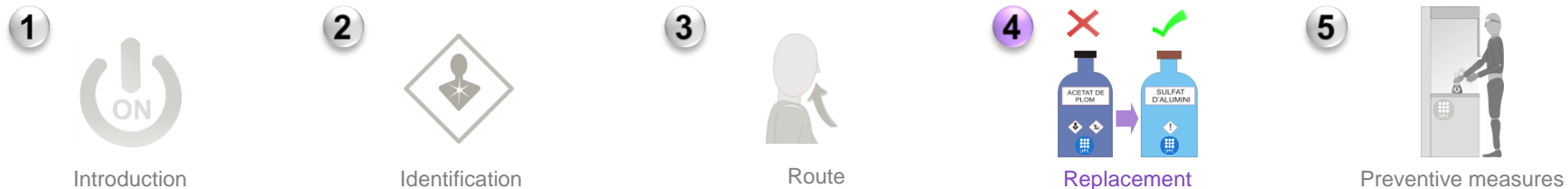
DIGESTIVE ROUTE

The route for chemical agents that involves their **ingestion**, generally due to an involuntary **action** that is almost always associated with unhygienic practices and habits.

PARENTERAL ROUTE

The route for chemical agents **through injuries to the skin** or direct inoculation with the toxin.

Chemical Agents that are Reproductive Toxicants



If the chemical agent that is a reproductive toxicant is replaced by another agent, the risk of exposure is eliminated.

Generally, chemical agents that are **reproductive toxicants do not have a universal replacement**, but can be substituted in certain applications by other chemical agents that are not toxic to reproduction, or by alternative processes.

Example Chemical agent that is a REPRODUCTIVE TOXICANT	Category	Applications	Alternative/Replacement
Lead acetate	Carc. 2 Repr. 1A	Chemical analysis	Aluminium sulfate
Formamide	Repr. 1B	Chemical analysis	Cyclopentanone
Ethylene glycol acetate	Repr. 1B	Chemical analysis	Propylene glycol ethers



For more information on potential substitutes, consult the **INFOCARQUIM (INFORMACIÓ SOBRE CARCINOGENS QUÍMICS)** database on the **INSHT website**: <http://infocarquim.insht.es:86/Forms/About.aspx>

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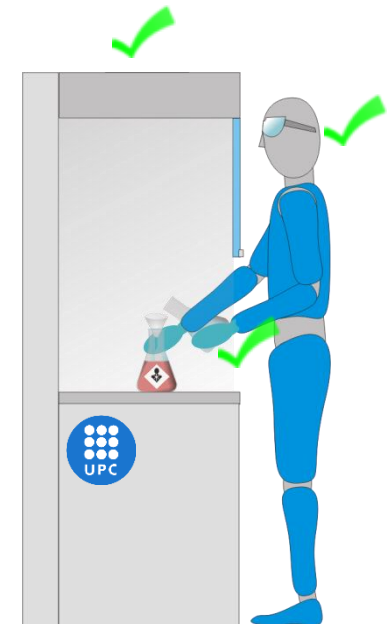
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Preventive measures

If the chemical agent that is a reproductive toxicant cannot be replaced, implement the following preventive measures

- ✓ Obtain the **right information** (indications of danger, preventive measures, etc.) by reading the **chemical agent's safety data sheet**.
- ✓ **Work with air-tight equipment** so that you are not exposed to a chemical agent that is a reproductive toxicant, by preventing small accidental leaks at critical points in the system (valves, joints, etc.).
- ✓ **Limit the amounts and concentrations** of the chemical agent that is a reproductive toxicant to minimise exposure.
- ✓ **Limit the number of workers** who handle chemical agents that are reproductive toxicants and reduce the exposure time.
- ✓ **Handle** chemical agents that are reproductive toxicants **within a fume cabinet** to prevent inhalation of vapour.
- ✓ **Use at least the following personal protection equipment:**
 - **Nitrile and/or neoprene chemical protection gloves.**
 - **Safety goggles** (wraparound) to avoid contact with the chemical agent through the skin and eyes.
- ✓ **Store** chemical agents that are reproductive toxicants in a specific cabinet for chemical storage, **with access restricted** to authorised personnel.



For further information on chemical agents, consult the chemical products section of the prevention website:
<http://www.upc.edu/prevencio/ca/seguretat-higiene/productes-quimics>