Hazardous substances:
Be aware, assess and protect

Motor Vehicle Repair

www.chemicalscampaign.eu

Risk Assessment in the use of dangerous substances
European Campaign

SLIC
Senior Labour Inspectors Committee

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Introduction

Workers in the motor vehicle sector are exposed to various hazardous substances (for example, paint, glues, solvents, engine oil, exhaust and welding fumes). It is essential that the risks resulting from exposure to each substance are assessed and prevented or controlled in order to avoid health problems.

What should employers do to assess risks to workers and to decide on the necessary preventive measures?

1st Identify the hazards and assess the risks resulting from operations involving hazardous substances carried out in their workplace;

2nd Select the preventive or risk control measures they should use;

3th Re-examine these measures regularly to check whether they remain adequate and whether any new risks have emerged

WHAT MEASURES?

These may be collective protection, work organisation or personal protective equipment (PPE) measures, or a combination of these.

How are collective protection measures implemented?

- By fitting specially adapted devices to the work equipment or premises (see Examples 1, 2 and 3).

NOTE

When designing premises or purchasing equipment, you should ensure that safety features are fully integrated.

How can work be organised in order to eliminate or reduce risk?

- By reducing the exposure time of each worker, exposing fewer workers to risk, removing risks from areas where workers are present and storing products and materials correctly

What kind of personal protective equipment (PPE) should be used?

- It should be borne in mind that PPE is always the last option, and is usually an additional or supplementary measure.
- There are various types of PPE, such as masks, gloves, goggles, aprons and boots. Consult the product label or material safety data sheet to find out which should be used (see the final page).

Is there any document that provides information on the substances used?

- Yes. You can find detailed information in the material safety data sheets. Additionally, the labels on the packaging of each product contain information which should be read carefully.

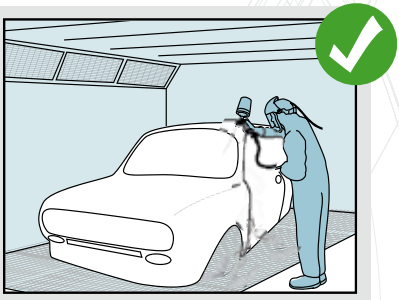
HAZARDOUS SUBSTANCES COMMONLY USED IN CAR REPAIR OPERATIONS

Example 1 – Spray painting

Many motor vehicle repair shops use paints with an isocyanate hardener, which is found in some water-based paints and almost all lacquers (varnishes).
Continued exposure to isocyanate can cause serious and permanent asthma.
The main source of exposure to isocyanate is spray painting, although it may also occur when cleaning the spray gun.
To avoid exposure to the risk of asthma, you should:

- Use a spray booth;
- Use airline breathing apparatus.

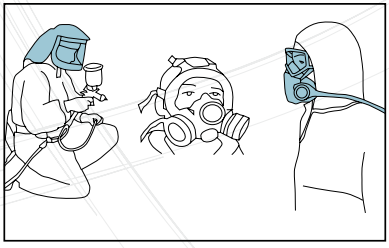
No. Why? The painting takes place outside a spray booth.



Yes. Why? A spray booth is used and the worker is using full individual protective equipment.

Spray booths should be ventilated and operate at a slightly lower pressure than the surroundings (i.e. at negative pressure) to prevent paint mist from escaping into the workplace.

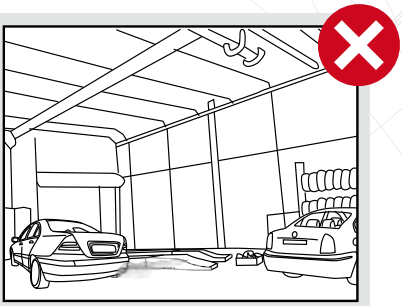
Workers should use overalls, gloves and air line breathing apparatus when spraying products that contain isocyanates.



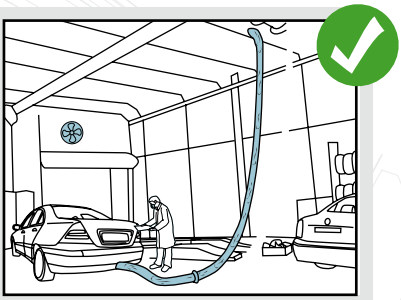
All workers should wear the masks correctly and check that they are in good condition.

Example 2 – Exposure to exhaust fumes

Vehicle exhaust fumes can irritate the eyes and respiratory tract, and are a risk to health if the engine fumes, which contain carbon monoxide, are inhaled. Prolonged exposure to diesel fumes, especially blue or to black smoke, may lead to coughing and dyspnoea. Long-term repeated exposure may increase the risk of lung cancer.



No. Why? There is no localised removal of exhaust fumes. General ventilation is inadequate to protect against exposure.



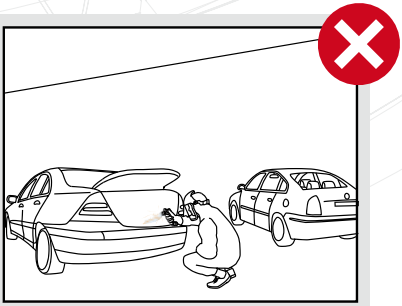
Yes. Why? There is no local realease of the exhaust fumes and the working space is ventilated.

What are the recommended preventive measures?

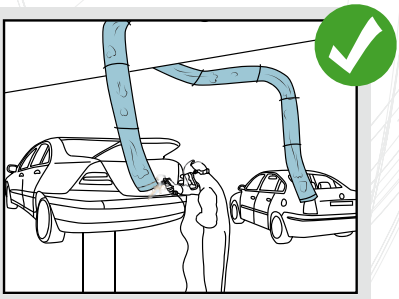
Keep the workplace well-ventilated. Install an exhaust system to clear the exhaust fumes, especially when working in inspection pits.

Example 3 – Exposure to welding fumes

Fumes from welding, cutting and other work involving heat may cause dryness in the throat, coughing, tightness in the chest and breathing difficulties. Changes may occur in the lungs in the long term from exposure to harmful fumes and gases during welding.



No. Why? The fumes are not being removed. The worker's posture is incorrect.

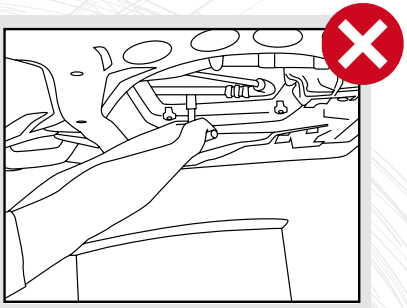


Yes. Why? There is localised removal of fumes and the worker is operating at an appropriate height.

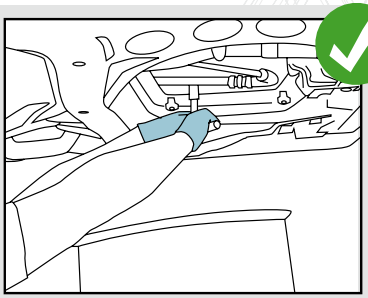
What are the recommended preventive measures?
There should be local ventilation or a mobile extraction unit with an exhaust fan.

Example 4 – Exposure to used oils
Frequent and prolonged contact with used engine oil may cause dermatitis and other skin disorders, including skin cancer.

What are the recommended preventive measures?
You should avoid all unnecessary contact with used engine oil. You should also wear protective clothing, which should be cleaned or replaced regularly, and maintain high standards of personal hygiene.
The premises and equipment should be cleaned regularly and at least at the end of each working day.



No. Why? The hands are in direct contact with the oil, meaning that it can be absorbed into the skin. It may be ingested if food or drink gets contaminated or if the worker puts his hands in his mouth.



Yes. Why? The worker is wearing gloves to avoid contact with the oil.

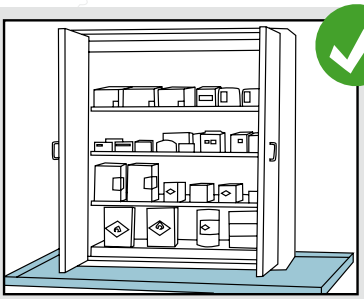
EXPOSURE TO SOLVENTS
Solvents are used in car repairs, above all to clean parts. Some solvents are water-based but many others contain hazardous liquids. Frequent or prolonged contact with solvents can remove the protective fatty layer of the skin and cause dermatitis. Some solvents can be hazardous if inhaled.
Find out about the solvents you are using. Read the safety data sheets and the labels on the containers.

GENERAL RULES FOR PREVENTION
To protect yourself against exposure to hazardous solvents, remember that you must:

- Whenever possible, replace hazardous products with others that are less dangerous or contain no hazards
- Work in well-ventilated places with an extraction system
- Use localised extraction whenever possible
- Wear a mask whenever necessary
- Wear the appropriate type of gloves to avoid the risk of dermatitis

Example 5 - Organisation of products in the warehouse

No. Why? The containers are randomly stacked together without any organisation, are not labelled and are in poor condition.



Yes. Why? The containers are labelled and arranged in a specific, ventilated and marked area, which has spill containment.

What are the recommended preventive measures?

- Organise the storage area
- Ensure that the layout allows for the compatibility of products
- Keep packages sealed, away from direct sunlight and any sources of ignition, in a dry, well-ventilated place at room temperature
- Ensure that storage area floors containing flammable liquids are waterproof and provided with spill containment so that liquids cannot escape in the event of any accidental spillage
- Ensure that all containers are properly labelled
- Ensure that all users have access to the material safety data sheets

RECEPTION OF CHEMICAL PRODUCTS

Reception is the first stage in the handling of chemical products.

When you receive a product, you should:

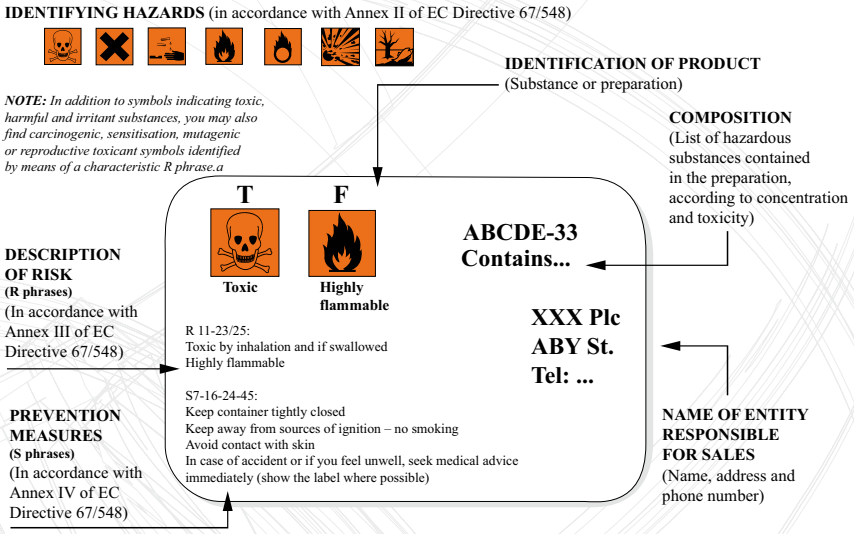
- Identify, register and monitor its arrival
- Check the condition of the packaging (for any damage or missing labels)
- Check the information on the label
- Check the safety data sheet supplied with the product

All containers for hazardous products or preparations must be properly labelled.

Labels must be legible and contain the following information:

- Name of product
- Identity of manufacturer
- Importer or distributor
- Risk warnings
- Safety warnings
- Hazard pictograms or symbols

HOW DO YOU READ THE LABEL?



WHICH SYMBOLS ARE USED ON LABELS?

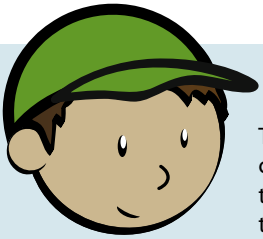
In Europe, hazards are identified in accordance with Annex II of Directive 67/548/EEC.

1 2 3 4 5 6 7 8

The symbols mean the following:

1. Highly flammable (F) and Extremely flammable (F+)
2. Toxic (T) and Very toxic (T+)
3. Corrosive (C)
4. Oxidising (O)
5. Harmful (Xn)
6. Irritant (Xi)
7. Explosive (E)
8. Dangerous for the environment

The Globally Harmonized System of Classification and Labelling stipulates different symbols that may already appear on some labels. Consult the product labels for further information.



What are safety data sheets?

The safety data sheet enables you to identify whether hazardous chemicals agents are present in the products used and helps you assess the risks to the health and safety of workers resulting from the use of these agents.

When delivering a hazardous substance, or even before doing do, every manufacturer, importer and/or distributor must send the user a safety data sheet containing the information needed to protect human life and the environment. The information contained in the safety data sheet must be written in the official language of the Member State in which the workplace is located. **If this is not the case, you should demand it from your manufacturer or supplier.**

Operations Sources of exposure	Hazardous products handled	Main risks
■ Work on the supply, distribution and injection systems ■ Fuel distribution	Diesel oil and petrol (benzene content)	Fire – explosion Effects on blood
■ Work with engine running	Exhaust fumes, mainly containing carbon monoxide, nitric oxide and airborne particulates	Headaches, fatigue, nausea, dizziness, irritation of respiratory tract
Degreasing	■ Hydrocarbons ■ Other solvents	■ Neurological, skin, hepatic and renal disorders ■ Neurological or skin disorders
Applying some paint, filler, varnish and glue	■ Toluene ■ Other solvents ■ Lead-based pigments	■ Gastrointestinal disorders ■ Neurological disorders
Use of certain two-pack paints, filters and resins	Isocyanates and resins	Asthma, dermatitis
Sanding down bodywork	Dust	Skin, ocular and bronchopulmonary diseases
Draining – grease	Oils and grease	Skin diseases
Changing and cleaning brake and clutch linings	Asbestos fibres	Cancer
Charging and maintaining batteries	■ Sulphuric acid ■ Hydrogen	Burns Fire and explosion

For further information, please contact: