

Health and Safety

Most paints contain flammable solvents and some contain materials which can harm the skin, or damage the health if swallowed or inhaled. Whilst most countries have developed regulations to control labelling, storage and use of toxic or hazardous material as yet there is no agreed international code or system. Transocean will adopt the local requirements in any country where their products are sold and Material Safety Data sheets for all products are available on request.

Handling and application of paints implies that risk factors need to be recognized and controlled by taking precautions that will reduce the risk to acceptable levels.

Fire/ Explosion

The majority of paints contain flammable organic solvents. As soon as a paint container is opened, solvent vapours are released.

Flash point of paints and solvents is stated in all our product data sheets. This is the lowest temperature at which a mixture of the material with air can ignite or explode. The lower explosive limit (LEL) is defined as the percentage of solvent vapour in the air which is the point where an explosion will occur if the air and solvent mixture is ignited with a spark.

If the temperature of the air is near, or above, the flash point it is essential that sufficient ventilation air is provided to reduce the concentration of solvent well below the lower explosive limit (L.E.L.).

Mixtures of solvent and air can only explode when the concentration lies between the lower and upper explosive limits. These limits vary from one solvent to another but the LEL is usually about 50 g per 1 m³ of air. In brief 200 m³ ventilation air is required per kilo of solvent to maintain an atmosphere below 10% of LEL.

If the flash point exceeds the air temperature then there is no risk of explosion but there is still a risk of fire. As such, therefore, no naked flames, cigarettes, matches or other sources of ignition should be allowed near an area where paint is being applied or stored. Precautions should also be taken to avoid sparks from electrical appliances or caused by metal to metal contact.

If a fire involving paint does occur, do not extinguish with water, as paint solvents float on water, and this helps to spread fire. Use a dry chemical, foam or CO₂ extinguisher. Protect yourself from the smoke and vapours with breathing apparatus/supplied air.

Contact with skin and eyes

It is recommended that the following precautions should be taken to prevent paint coming into contact with the skin and eyes.

- Select sensible working clothes, that cover as much of the body as possible.
- Always wear gloves and eye protection.

- Do not touch your mouth or eyes with your gloves.
- Read and observe precautionary notices on paint containers.
- Eyes are particularly sensitive, so if you are splashed in the eyes, by paint or thinners, flood them immediately with fresh water for at least 15 minutes and seek medical advice immediately.
- If paint should splash on your skin, remove it with soap and water. Do not use solvent.
- Remember to wash hands and rinse mouth after working with paint.
- Despite these precautions paint can still come into contact with the skin or eyes (e.g. spray mist, excessive splashing), so a non-greasy barrier cream is recommended for all exposed skin.

Remember the objective is to avoid skin contact. If your clothes become soaked in paint, change them immediately and thoroughly wash the affected garments with soap and water. If paint is spilled the following precautions should be taken:

- Eliminate all potential ignition sources.
- Ventilate the area to remove the vapours.
- Wear appropriate protective clothing and use protective equipment
- Do not walk into the spill. Mop up all spilled paint with absorbent material, ensuring that all materials used to mop up the paint are disposed of in closed metal containers.
- Arrange for proper disposal of all waste materials.

Inhalation.

The inhalation of solvent vapours, paint vapours and dust must be avoided. Please follow the precautions listed.

- Ensure that ventilation is available to remove solvent vapours.
- Check Material Safety Data Sheet for appropriate respiratory protection.
- If spaces are difficult to ventilate efficiently wear an air-fed hood /mask.
- Spaces may require monitoring for LEL and exposure levels.
- Think about where the vapours are being ventilated. They could affect other people in adjacent spaces.

Precautions when spraying.

Dust, smoke and spray mist can be filtered by face masks containing a dust filter cartridge. Cartridges are also available which absorb both dust and solvents. These are only effective whilst there is no apparent smell of solvent.

The filter is exhausted when the odour of solvent can be detected and the filter should then be changed. It is most important that the correct filter for the class of work should be used. These are described by the manufacturers of the face mask and filter.

Toxic substances in paints usually enter the body by inhalation of gases, vapours, fumes, dusts or spray mists.

An indication of the level of hazard is the Threshold Limits Value (T.L.V.), at one time called Maximum Allowable Concentration (M.A.C.). This is the concentration which can be tolerated by a healthy worker for 8 hours a day without adverse effects. The lower the figure, the more toxic the substance.

The concentrations are given either as parts per million (ppm), i.e. cm^3 of vapour per m^3 of air, or for solid dusts as mg per m^3 .

The minimum volume for air required to achieve this safe level of concentration will be given in our data sheets. This volume may in some cases be as much as 20 times that required to reach 10% of LEL and in some classes of work it may be impractical to supply the volume of air required to allow the required rate of usage of paint in the compartment. In such cases it is essential that operators are supplied with, and required to use, fresh air masks or respirators fed with clean air at positive pressure. It is important that the mask has a good facial fit.

Remember solvent vapours are heavier than air, they push breathable air upwards. They can flow down drains and ventilation ducts.

- If dizziness, drunkenness or headaches are experienced this could indicate you are being affected by solvent vapours. Move into fresh air and do not return until the ventilation has improved.
- If breathing vapours results in the collapse of a painter medical attention should be sought immediately. Forced exercise is inadvisable.
- Never enter a space where vapours have or could have accumulated without breathing apparatus.

Ingestion

Food and drink should not be consumed, stored or prepared in areas where paint is stored or being applied. In the case of accidental ingestion, medical attention should be obtained at once.

Environment

Paint contains organic material and may contain substances which are poorly degradable in the environment. Therefore handle empty containers with care and avoid contamination of the environment with any paint or waste resulting from using the paint.

Material Safety Data Sheets

Prior to use, obtain and consult the Material Safety Data Sheet for products being used concerning health and safety information. Read and follow all precautionary notices on the Material Safety Data Sheet and container label. If you do not fully understand these warnings and instructions or if you can not strictly comply with them, do not use this product.