



Worker seriously injured by flammable liquid fire

Background

A serious accident at a mechanical workshop involving the ignition of a flammable liquid is currently being investigated by DMIRS. The workshop uses a flammable solvent to clean car components. An ignition source was introduced near an open tray of solvent which ignited the fumes, causing serious burn injuries to a worker attempting to control the fire, and destroying the building.

WorkSafe has investigated multiple incidents in recent years in which the storage and use of flammable liquids in open containers has resulted in significant fires and injuries to workers as a result of an introduced ignition source.

Contributing factors in fires of this type

- Open containers or trays used to hold flammable liquids increase the amount of flammable vapour in air
- Ignition sources in the vicinity of flammable liquids, for example: the use of electric or battery powered tools, cigarette smoking; and the generation of sparks or heat.
 - Some tools or processes throw sparks significant distances, for example cutting with an angle grinder or welding
- Hazards not fully identified
- Guidance in the material safety data sheet (MSDS/SDS) or product label is not followed
- Risk assessments for the use of the flammable liquids are not conducted
- Lack of information and training for workers about the hazards and risks associated with flammable liquids

Regional Offices

Action required

- Consider whether a non-flammable or combustible substance (with higher flash point) could be used instead of a flammable liquid
- Ensure adequate ventilation is provided in areas where flammable liquids are used and stored
- Store and use flammable liquids in closed containers as far as practicable
- Where the use of open containers/trays cannot be avoided, implement stringent controls to ensure ignition sources are not introduced into the work activity area. For example, isolate the area, use hot work permits and have clear signage to cordon off activity and warn of danger
- Have regular audits of MSDS/SDS and labels to ensure the information is current and matches products exactly
- Ensure the MSDS/SDS and product label are reviewed regularly and the information is used to improve risk assessment and safe work procedures
- Ensure information and training is provided to workers on:
 - The potential hazards associated with the use of flammable liquids
 - Safe work methods, including any required personal protective equipment
 - How to manage spills, provide first aid, or extinguish fires, where required as part of the job
- Ensure emergency procedures include procedures to follow in the event of a chemical spill, fire or burn injuries.

Further Information

- Further information can be obtained from the [Department of Mines, Industry Regulation and Safety](#)
 - For information on Occupational Safety and Health laws, call 1300 307 877
 - For information on Dangerous Goods laws, call 9358 8001
- *AS 1940 The storage and handling of flammable and combustible liquids*, available for purchase from infostore.saiglobal.com
- Hazardous substances FAQs - www.commerce.wa.gov.au/worksafe/hazardous-substances-faqs

Important Information: The investigation into the incident outlined above is still underway at the time of publishing, and final conclusions have not been drawn. This Safety Alert is provided to remind people at workplaces of the importance of managing the hazards associated with flammable liquids.

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