

PRIMARY AUTHORITY ASSURED ADVICE

Emergency Arrangements and Treatment in the Event of Eye Exposure to Ammonia (Including contact lens wearers) When Completing Maintenance on Ammonia Refrigeration Systems

Guidance Document (Version 4) on 'Emergency Arrangements and Treatment in the Event of Eye exposure to Ammonia (Including contact lens wearers) when completing Maintenance on Ammonia Refrigeration Systems'
Reference BFFFHS 14

Advice Issued July 2023, Primary Authority Advice is issued by

Wakefield Council to The British Frozen Food Federation that the guidance document (vs 4) regarding '*Emergency Arrangements and Treatment in the event of Eye Exposure to Ammonia (Including contact lens wearers) when completing Maintenance on Ammonia Refrigeration Systems*' demonstrates adequate control measures to comply with The Health and Safety at Work etc. Act 1974 Sections 2(1), 2(2)(a), 2(2)(b), 2(2)(c), 3(1), Control of Substances Hazardous To Health Regulations 2002 Regulations 6, 7(1), 12, 13, Personal Protective Equipment at Work Regulations 1992 Regulation 4(1) (incorporating Personal Protective Equipment at Work (Amendment) Regulations 2022) and the Health and Safety (First Aid) Regulations 1981 Regulation 3(1)

If you require further information and the full version of this advice and guidance, please contact the Primary Authority via the Primary Authority Register.

The Council of the City of Wakefield contact:

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It has been assessed by the Primary Authority that the BFFF guidance document (version 4) regarding *Emergency Arrangements and Treatment in the event of Eye Exposure to Ammonia (Including contact lens wearers) when completing Maintenance on Ammonia Refrigeration Systems* demonstrates adequate control measures to comply with:

- The Health and Safety at Work etc. Act 1974 Sections 2(1), 2(2)(a), 2(2)(b), 2(2)(c), 3(1)
- Control of Substances Hazardous To Health Regulations 2002 Regulations 6, 7(1), 12, 13
- Personal Protective Equipment at Work Regulations 1992 Regulation 4(1) (incorporating Personal Protective Equipment at Work (Amendment) Regulations 2022)
- Health and Safety (First Aid) Regulations 1981 Regulation 3(1)

THE PRIMARY AUTHORITY WOULD NOT BE PREPARED TO SUPPORT ENFORCEMENT ACTIONS WHICH CHALLENGE THE ADEQUACY OF THIS POLICY.

Introduction

This guidance aims to provide companies operating Ammonia refrigeration systems advice for employees on eye protection and first aid treatment if exposed to Ammonia, including those wearing contact lenses.

We have identified that companies are not always considering eye protection and FIRST AID treatment, (including those wearing of contact lenses) for those working on Ammonia refrigeration systems in their risk assessments, safe systems of work and emergency arrangements.

With any type of chemicals, a Control of Substances Hazardous to Health (CoSHH) assessment must be completed, and suitable risk control measures put in place.

Typically, emergency arrangements and control measures used in the event of an Ammonia release include alarms and emergency venting. Ammonia alarms will not trigger unless there is a release detected. Exposure could occur during maintenance work, component failure or the compressor oil contamination.

Employees and contractors working on Ammonia systems wearing contact lenses are at higher risk of injury. In the event of exposure, contact lenses would need to be removed quickly (if safe to do so) in order to minimise the risk of eye injury/damage and offer the best chance of effective medical treatment.

The Material Safety Datasheet (MSDS) for Ammonia outlines the risk of severe skin burns and eye damage with the following precautions:

- rinsing the eye with water immediately,
- removing contact lenses (if worn and easy to remove) and continued rinsing.

Further treatment:

- flush thoroughly with water for at least 15 minutes,
- seek immediate medical assistance.

If medical assistance is not immediately available:

- flush for an additional 15 minutes or until medical assistance can be sought.

The material safety data sheet also outlines the wearing of eye protection to EN 166 when using gases.

Key considerations

- 1) Ensure your current emergency procedures contain guidance for treatment for Ammonia exposure, especially for maintenance workers and contractors who are potentially at higher risk of exposure.
- 2) Consider prevention here too, entry to plant rooms should be controlled via a permit to work system to minimise the risk of untrained personnel being exposed.
- 3) Ensure your risk assessments and safe systems for employees and contractors working on Ammonia systems must include the need to wear EN166 goggles and identify any employees wearing contact lenses.
- 4) Consider in your risk assessment the requirement for employees and contractors to be supplied with personal ammonia detectors and EN166 goggles, goggles must be worn if ammonia levels reach the short term exposure limit (15 minutes) of 35ppm or long term exposure limit (8 Hours) 25ppm.
- 5) Ensure your first aid arrangements include this scenario and that first aiders are made aware of anyone likely to wear contact lenses. See [Ammonia: general information - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/ammonia-general-information)
- 6) Consider in the risk assessment the location of water and/or eye wash stations – e.g. where there is no tap in close proximity to a plant room an eye wash station will be provided.
- 7) Consider the use of Diphoterine as an eye-washing solution rather than water due to its amphoteric, chelating and hypertonic properties which aim to minimise the development and severity of chemical burns. Diphoterine eyewash solution could be the difference between someone losing their eyesight. [Diphoterine® – Chelsea and Westminster Hospital NHS Foundation Trust \(chelwest.nhs.uk\)](https://www.chelwest.nhs.uk/our-services/eye-conditions/diphoterine-eyewash/)
- 8) In ensuring the Safe Management of Ammonia Refrigeration Systems please refer to the guidance produced by the Cold Chain Federation, see link below:
<https://www.coldchainfederation.org.uk/publications/>



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