Your Company Ltd

COSHH ASSESSMENT

Industrial Cleaning - Food Processing Plant

Reference	EX0012
Issue	1
Assessment Date	14/11/2026
Review Date	14/11/2027
Client	Your Client Ltd
Site Location	Food processing plant
Assessor	Your Name, Health & Safety Manager

Executive Summary

This COSHH assessment covers the deep cleaning of food processing equipment using highly reactive and corrosive chemicals, including caustic soda, peracetic acid, and chlorinated degreasers. The assessment specifically addresses the heightened risks associated with working in enclosed spaces with limited ventilation, which significantly increases inhalation risks and triggers the Confined Spaces Regulations 1997. The primary hazards involve severe chemical burns, respiratory damage from aerosols, and the catastrophic risk of generating highly toxic chlorine gas if acidic (peracetic acid) and chlorinated products are inadvertently mixed. Strict adherence to the hierarchy of control—emphasising automated Clean-in-Place (CIP) systems, Permit to Work procedures, chemical segregation, and the use of high-level PPE/RPE—is mandatory.

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1. Assessment Details

Client:	Your Client Ltd	**Site Location:**	Food processing plant
Review Date:	14/11/2027	**Assessor:**	Your Name, Health & Safety Manager

2. Hazardous Substances

1. Sodium Hydroxide (Caustic Soda 30-50%) (CIP Alkaline Detergent)

16 HIGH | 4 LOW

GHS Classification	 Corrosive  Health hazard Corrosive Harmful		
Physical Form	Liquid	**Exposure Routes**	Skin contact, Eye contact, Inhalation
Who Exposed	Cleaning Operatives, Maintenance Personnel	**OEL / WEL**	2 mg/m³ (15-min STEL)
Acute Effects	Severe skin burns, irreversible eye damage (potential blindness), irritation of the respiratory tract if aerosolised.	**Chronic Effects**	Chronic dermatitis, severe ongoing tissue damage from scarring.
Control Measures	• Automate the CIP dosing system to eliminate manual handling of the concentrated chemical. • Implement a strict Permit to Work system prior to entering enclosed equipment for manual scrubbing. • Provide mechanical forced ventilation or extraction in enclosed spaces before and during cleaning. • Wear chemical-resistant gauntlets (EN 374, Type A, Category III) and a liquid-tight chemical suit (EN 14605 Type 3/4). • Wear a full-face visor combined with splash-proof safety goggles (EN 166) to prevent eye exposure.		
Monitoring	Yes — Periodic atmospheric testing during manual application in enclosed spaces to ensure mists remain below 2 mg/m³ STEL.	**Health Surveillance**	Yes — Annual skin checks by an occupational health professional for signs of occupational dermatitis.
Storage	Store in a dedicated, bunded alkaline storage area. Keep well away from acids (Peracetic Acid) and oxidising agents.	**Disposal**	Neutralise on-site through the automated effluent treatment plant (ETP) prior to discharge, strictly following trade effluent consent.
SDS Reference	Manufacturer Safety Data Sheet - Section 8 (Exposure Controls) and Section 10 (Stability and Reactivity)		

Initial Risk (Pre-Control)	Likelihood **4**	Severity **4**	Score **16** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **4**	Score **4** (Low)

2. Peracetic Acid (PAA 5-15%) (CIP Terminal Sanitiser)

16 HIGH | 12 MEDIUM

GHS Classification	 Oxidising  Corrosive  Acute toxicity  Dangerous to the environment **Oxidising** **Corrosive** **Toxic** **Environmental Hazard**		
Physical Form	Liquid	**Exposure Routes**	Inhalation, Skin contact, Eye contact
Who Exposed	Cleaning Operatives	**OEL / WEL**	Hydrogen Peroxide: 1 ppm (8hr TWA), 2 ppm (STEL) / Acetic Acid: 10 ppm (8hr TWA), 20 ppm (STEL)
Acute Effects	Severe chemical burns to skin and digestive tract, intense respiratory irritation, pulmonary oedema from vapour inhalation.	**Chronic Effects**	Occupational asthma, chronic respiratory sensitisation, severe dermatitis.
Control Measures	• Store and handle strictly segregated from chlorinated products and alkaline detergents to prevent dangerous reactions. • Utilise closed-loop CIP dosing pumps. Ensure lines and seals are inspected daily for leaks. • Use portable local exhaust ventilation (LEV) when manual application is unavoidable in enclosed spaces. • Wear full-face respiratory protection (EN 136) fitted with ABEK-P3 combination filters during manual handling or spill clean-up. • Ensure emergency safety showers and plumbed eyewash stations are situated within 10 metres of the chemical application area.		
Monitoring	Yes — Continuous personal gas monitoring for hydrogen peroxide/acetic acid vapours when entering enclosed spaces.	**Health Surveillance**	Yes — Annual spirometry (lung function) testing and respiratory health questionnaires.
Storage	Store in a cool, well-ventilated, dedicated bunded area. Do not store on wooden pallets. Keep away from direct sunlight, heat sources, and alkalis.	**Disposal**	Dilute with copious amounts of water and discharge to the facility's effluent treatment plant. Never discharge concentrated solutions directly to drains.
SDS Reference	Manufacturer Safety Data Sheet - Sections 7 (Handling) and 8 (Exposure Controls)		

	Likelihood	Severity	Score
Initial Risk (Pre-Control)	4	4	16 (High)
Residual Risk (Post-Control)	3	4	12 (Medium)

3. Chlorinated Degreaser (Sodium Hypochlorite base) (Chlorinated Heavy Duty Foamer)

16 HIGH | 4 LOW

GHS Classification	 Corrosive  Dangerous to the environment **Corrosive** **Irritant** **Environmental Hazard**		
Physical Form	Liquid	**Exposure Routes**	Skin contact, Eye contact, Inhalation

Who Exposed	Cleaning Operatives	**OEL / WEL**	No specific WEL for hypochlorite. Chlorine gas (if evolved): 0.5 ppm (15-min STEL)
Acute Effects	Skin irritation and burns, severe eye damage. Vapour irritates mucous membranes and respiratory tract.	**Chronic Effects**	Defatting of the skin leading to occupational dermatitis.
Control Measures	• Implement rigorous Lock-out/Tag-out (LOTO) on dosing units to ensure acidic and chlorinated products are never pumped simultaneously. • Use low-pressure foaming lances rather than high-pressure sprays to minimise the aerosolisation of the chemical. • Operatives must wear chemically resistant wellington boots (EN 13832-3) and chemical aprons during manual scrubbing. • Wear half-mask or full-face respirators (EN 140/EN 136) with ABEK filters where mechanical ventilation is limited. • Use only colour-coded equipment specifically designated for chlorinated products to prevent cross-contamination.		
Monitoring	No	**Health Surveillance**	Yes — Regular skin assessments by a responsible person, followed up by occupational health if dermatitis is suspected.
Storage	Store in a dark, cool, ventilated area. Must be stored in a separate bund to any acidic products (e.g. peracetic acid).	**Disposal**	Wash down to ETP. Do not mix with other chemical waste streams.
SDS Reference	Manufacturer Safety Data Sheet - Section 10 (Conditions to Avoid - Mixing with Acids)		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **4**	Score **16** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **4**	Score **4** (Low)

4. Chlorine Gas (Reaction By-Product) (Accidental chemical reaction by-product)

16 HIGH | 4 LOW

GHS Classification	 Corrosive  Acute toxicity  Dangerous to the environment		Toxic · Corrosive · Irritant · Environmental Hazard
Physical Form	Gas	**Exposure Routes**	Inhalation, Eye contact
Who Exposed	All personnel in the vicinity	**OEL / WEL**	0.5 ppm (15-min STEL)
Acute Effects	Extreme irritation of eyes and respiratory tract, choking, coughing, severe pulmonary oedema (fluid in lungs) which can be fatal.	**Chronic Effects**	Permanent lung damage, chronic bronchitis, reactive airways dysfunction syndrome (RADS).
Control Measures	• Physical separation of acid and hypochlorite storage and dosing lines. • Implement robust mechanical interlocks on the CIP system to prevent simultaneous dosing of incompatible chemicals. • Equip operatives entering enclosed spaces with personal gas monitors calibrated for chlorine. • Provide emergency escape breathing apparatus (EEBA) to operatives working in enclosed processing areas. • Mandatory emergency evacuation procedures tested bi-annually, specifically simulating a chlorine gas release.		

Monitoring	Yes — Continuous personal and static area atmospheric monitoring for chlorine gas during enclosed space work.	**Health Surveillance**	No
Storage	Not applicable - accidental by-product. Prevent generation through strict segregation.	**Disposal**	Not applicable. In the event of release, ventilate the area entirely before re-entry.
SDS Reference	General hazard data for Chlorine (CAS 7782-50-5)		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **4**	Score **16** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **4**	Score **4** (Low)

3. Required PPE


Eye protection


Face shield


Respiratory protection


Protective clothing


Gloves


Safety footwear

- Chemical-resistant gauntlets (EN 374, Type A, Category III - Nitrile/Neoprene)
- Liquid-tight chemical protective suit or coveralls (EN 14605 Type 3/4)
- Chemical splash goggles (EN 166) and full-face visor
- Full-face respiratory mask (EN 136) fitted with ABEK-P3 combination filters
- Chemically resistant wellington safety boots (EN 20345 / EN 13832-3)

4. Emergency Procedures

Spill / Leak Response
Evacuate the area immediately. Ensure no incompatible chemicals can mix in the drainage system. Don full PPE and RPE (ABEK-P3 filters or SCBA for large spills in enclosed spaces). Contain spill using inert absorbent material (sand or earth - never sawdust for PAA). Place in labelled, sealed chemical waste bins. Ensure robust ventilation before reopening the area.

Fire Procedures
Use water spray to cool containers and knock down vapours. Do not use dry chemical extinguishers on peracetic acid fires. Beware of toxic fumes (chlorine, carbon oxides) emitted during a fire. Fire response teams must use SCBA.

Skin Contact
Immediately remove all contaminated clothing and footwear. Flush the affected skin with copious amounts of water under the emergency shower for a minimum of 15-20 minutes. Seek immediate medical attention for burns.

Ingestion
Do NOT induce vomiting due to the corrosive nature of the chemicals. Rinse the mouth thoroughly with water. Give small sips of water to drink if the casualty is conscious and able to swallow. Seek immediate medical attention (999).

General First Aid
Plumbed emergency safety showers and eyewash stations must be located within 10 metres of the working area. A designated first aider trained in chemical injury response must be on shift.

Inhalation
Move the casualty to fresh air immediately. Keep them warm and at rest. If breathing is difficult, administer oxygen if trained. If breathing stops, begin artificial respiration (avoid mouth-to-mouth to prevent secondary exposure; use a bag-valve mask). Seek emergency medical attention (999).

Eye Contact
Immediately irrigate the eye with clean, flowing water or eye-wash solution for at least 15-20 minutes, holding the eyelids apart. Remove contact lenses if easy to do so. Seek urgent medical attention or transport to an eye hospital.

5. Training Requirements

- City & Guilds (or equivalent) Confined Space Entry training (Medium/High Risk)
- Comprehensive COSHH awareness and chemical hazard communication training
- Specific training on the dangers of mixing acids and alkalis/chlorinated products
- Face-fit testing for all operatives required to wear RPE (compliant with HSE INDG479)
- Permit to Work and Lock-out/Tag-out (LOTO) procedure training
- Spill response and emergency evacuation drills

6. Monitoring Schedule

Daily pre-entry atmospheric testing in enclosed spaces. Continuous personal gas monitoring during shifts. Formal review of this COSHH assessment bi-annually, or immediately following an incident or process change.

7. ALARP Justification

As Low As Reasonably Practicable (ALARP) Declaration

The risks from the highly corrosive and reactive substances used in this cleaning process have been reduced to ALARP. Elimination of the chemicals is not feasible due to strict food hygiene standards. Exposure is primarily controlled through engineering (automated CIP dosing, enclosing the process, forced ventilation) and strict safe systems of work (Permits to Work, LOTO, chemical segregation). High-specification PPE and RPE (Category III / EN 136) serve as a final, robust barrier where manual intervention in enclosed spaces is unavoidable.

8. Risk Matrix Reference

	Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost Certain (5)	5	10	15	20	25
Likely (4)	4	8	12	16	20
Possible (3)	3	6	9	12	15
Unlikely (2)	2	4	6	8	10
Rare (1)	1	2	3	4	5

1-5 Low 6-12 Medium 15-25 High

9. Competency Requirements

Qualification	Description	Required For	Verification
Confined Space Entry Certification	Training covering safe entry, atmospheric monitoring, and emergency escape procedures in enclosed spaces.	All operatives entering the food processing equipment for manual cleaning.	Visual check of valid certification (e.g., City & Guilds) before issuing the Permit to Work.
COSHH & Chemical Handling Training	Understanding of the SDS, GHS hazard symbols, exact mixing risks (chlorine gas generation), and safe handling techniques.	All operatives handling cleaning chemicals or operating the CIP system.	Training matrix review and documented toolbox talk sign-offs.

Qualification	Description	Required For	Verification
Qualitative/Quantitative Face-Fit Testing	Ensuring tight-fitting RPE (EN 136 masks) form a proper seal on the operative's face.	Any operative issued with tight-fitting respiratory protective equipment.	Face-fit test certificate (valid within the last 2 years, or earlier if facial structure changes).

10. Regulatory Compliance

Regulation / Standard	Section	Relevance to This Assessment
Control of Substances Hazardous to Health Regulations 2002	Regulation 7 — Prevention or control of exposure to substances hazardous to health	Requires the employer to prevent exposure, or where not reasonably practicable, adequately control it using the hierarchy of controls (CIP automation, ventilation, PPE).
Confined Spaces Regulations 1997	Regulation 4 — Work in confined spaces	Dictates that entry must be avoided if possible; if not, a safe system of work (Permit to Work) and adequate emergency arrangements must be in place due to limited ventilation and chemical use.
Personal Protective Equipment at Work Regulations 1992 (as amended 2022)	Regulation 4 — Provision of personal protective equipment	Mandates the provision of suitable, CE/UKCA-marked Category III chemical PPE and RPE, tailored to the specific risks of corrosive substances and toxic gases.

11. Inspection & Monitoring

Supervision Arrangements
A fully trained and competent supervisor must oversee all enclosed space entries. A dedicated top-man/standby person must be stationed outside the enclosed space during manual cleaning.

Inspection Schedule
Daily pre-use inspection of all PPE/RPE. Daily checks of mechanical ventilation and CIP dosing seals. Monthly calibration checks on personal gas monitors.

Responsible Person
Hygiene Manager / Shift Supervisor

Review Triggers
- Introduction of new cleaning agents or sanitising products
- Modifications to the CIP dosing system or processing equipment
- Following any near-miss, chemical spill, or exposure incident
- Updates to EH40 workplace exposure limits for the chemicals in use
- At maximum intervals of 12 months

12. Incident & Near-Miss Reporting

Minor Injury
Administer first aid using plumbed eyewash or emergency showers. Record the incident in the site Accident Book. Notify the Hygiene Manager immediately. Complete a thorough internal investigation report within 24 hours.

Serious Incident
STOP ALL WORK. Evacuate the area. Call 999 immediately for severe chemical burns, respiratory distress, or loss of consciousness. Do not attempt rescue in enclosed spaces without SCBA and confined space rescue training. Notify the H&S Director immediately.

Near-Miss Reporting
Report all near-misses (e.g., failed dosing valves, minor leaks, strong chemical odours) to the supervisor immediately. Stop the task until investigated. Update COSHH and risk assessments based on findings.

RIDDOR Reporting
Report to the HSE under RIDDOR 2013 for any dangerous occurrences (e.g., accidental release of chlorine gas), over-7-day incapacitation injuries, or diagnosed occupational diseases (e.g., occupational dermatitis, asthma). Report online at www.hse.gov.uk/riddor.

Emergency Contacts
Site Supervisor: [Insert Number], H&S Lead: [Insert Number], Emergency Services: 999, HSE Incident Contact Centre: 0345 300 9923, NHS 111 for urgent non-life-threatening medical advice.

13. Applicable Legislation

- Control of Substances Hazardous to Health Regulations 2002
- Confined Spaces Regulations 1997
- Health and Safety at Work etc. Act 1974
- Management of Health and Safety at Work Regulations 1999
- EH40/2005 Workplace Exposure Limits (as amended)
- CLP Regulation (EC) No 1272/2008
- Personal Protective Equipment at Work Regulations 1992 (as amended 2022)

14. Site Staff Acknowledgment

I confirm that I have been inducted, understand the hazardous substances identified, and agree to follow the control measures.

Name	Position	Date Signed	Verification

Assessor Declaration & Client Acceptance

I confirm that this assessment has been prepared by a competent person and represents a suitable and sufficient assessment of the risks associated with the described work activity, in accordance with the Management of Health and Safety at Work Regulations 1999.

Prepared By (Assessor)

Your Name, Health & Safety Manager

Name & Position

Signature

Date

Accepted By (Client / Principal Contractor)

Name & Position

Signature

Date