

SUMMIT BRIDGE LIMITED

Advanced Biological Water Treatment Solutions

COSHH RISK ASSESSMENT

WITH APPLICATION, DOSAGE & CONCENTRATION GUIDE

SUMMIT BIO CLEAR



Biological effluent treatment preparation containing non-pathogenic environmental bacterial isolates

Document Reference: SBG-COSHH-003

Date Issued: September 2026 | Revision 2.0

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Terminology Notice: All biological preparations described in this document are biological effluent treatment preparations containing non-pathogenic environmental bacterial isolates. Product descriptions comply with the Summit Bridge Terminology Guide (April 2026).

Revision 2.0 (September 2026): composition table restated under CLP (Regulation (EC) No 1272/2008) hazard and precautionary statements in place of the superseded R- and S-phrases system; shelf life restated at 24 months per the manufacturer's written confirmation; manufacturer's written positions on strain identity and safety confirmation, operating range, activation time and dissolved-oxygen tolerance incorporated. Summit Bridge recommended operating windows retained alongside the manufacturer's stated ranges.

1. DOCUMENT INFORMATION

Document Reference	SBG-COSHH-003 Revision 2.0
Product Name (Summit Bridge)	Summit Bio Clear
Description	Drain line and soakaway pit bio-culture. Bio-augmentation preparation for drain line maintenance and fats, oils & grease (FOG) system treatment.
Assessment Prepared By	James Mulcair CertIOSH MIIRSM NVQ Level 6 Occupational Health & Safety
Date of Assessment	September 2026
Review Date	September 2027
Applicable Regulation	COSHH Regulations 2002 (as amended); EU REACH Regulation (EC) No 1907/2006; CLP Regulation (EC) No 1272/2008
Source Documents	Summit Bridge Safety Data Sheet — Summit Bio Clear (EN); manufacturer's written responses to the Summit Bridge technical questionnaire (August 2026)

2. PRODUCT IDENTIFICATION & COMPOSITION

Component	CAS No.	% m/m	CLP Classification (substance level)	Applicability to this mixture
Proprietary stabilisation mix	N/A	0.1–1.0%	Skin Corr. 1A H314; Eye Dam. 1 H318 (substance level, as supplied).	Below generic concentration limits in the buffered mixture at pH 4.80 — does not contribute to mixture classification
Dye Quinoline Yellow	8004-92-0	0.001–0.010%	Not classified. Food-grade colourant.	Not classified
Xanthan Gum	11138-66-2	0.01–0.10%	Not classified. Food-grade thickener.	Not classified
Bacterial consortium — non-pathogenic environmental isolates, non-GMO, food-grade activation nutrients	N/A	Balance	Not classified. Biosafety level 1 (BSL-1). All strains <i>Bacillus</i> spp., identified by 16S sequence homology, GRAS, confirmed negative for anthrax toxin and <i>Bacillus cereus</i> enterotoxin.	Not classified

Strain identity and safety confirmation. All strains in the consortium are *Bacillus* species, identified by 16S rRNA sequence homology and supporting techniques, and have Generally Recognised As Safe (GRAS) status. Each strain is confirmed negative for anthrax toxin and for the *Bacillus cereus* enterotoxin. Strains are produced individually under controlled monoseptic fermentation and supplied in spore form for shelf life, formulation stability and robustness. Strains are naturally occurring, non-genetically-modified environmental isolates; the product contains no animal-derived ingredients and no non-biodegradable ingredients.

Mixture-level note: All classified components are present below their generic concentration limits under CLP Annex I, so the mixture is NOT classified as hazardous. No hazard statements, precautionary statements, signal word or pictogram apply to the mixture. Goggles and gloves in Sections 5 and 8 are applied as good practice for dispensing into confined drain and grease-trap access points.

3. PHYSICAL & CHEMICAL PROPERTIES

Property	Value	Property	Value
Appearance	Yellowish-brown Powder	Explosive properties	None
Odour	Natural, mild acidic	Oxidising properties	None
pH	4.80 ± 0.10	Vapour pressure	N/A
Density	1.000 g/ml	Viscosity	13.20 cP
Solubility	Dissipates in water	Flash point	N/A
Flammability	None	Auto-flammability	N/A

4. HAZARD IDENTIFICATION (CLP / GHS)

Hazard Category	Assessment
Flammability	Non-flammable.
Biological hazard	No known effect. Organisms are non-pathogenic environmental isolates (non-GMO), biosafety level 1. All strains <i>Bacillus</i> spp., identified by 16S sequence homology, GRAS, confirmed negative for anthrax toxin and <i>Bacillus cereus</i> enterotoxin. Supplied in spore form.

Hazard Category	Assessment
Eye irritation	Not classified. Transient irritation possible on direct contact; wear goggles during dispensing into confined access points.
Skin irritation	Not classified. Low risk; gloves recommended for prolonged contact.
Inhalation	Not classified. No known inhalation hazard under normal use conditions.
Carcinogenicity / Mutagenicity	No known effect.
Aquatic toxicity	Not classified. No known effect when used per instructions.
CLP Classification	NOT CLASSIFIED as hazardous under Regulation (EC) No 1272/2008. No signal word, no pictogram, no hazard statements. Assessed by the calculation (additivity) method.

5. EXPOSURE CONTROLS & PERSONAL PROTECTIVE EQUIPMENT

Control / PPE Category	Requirement
Respiratory protection	Not required under normal use conditions.
Hand protection	Nitrile or latex gloves recommended, particularly for extended or repeated contact.
Eye / face protection	Safety goggles required when dispensing directly into confined drains or grease traps.
Skin / body protection	Lab coat or overalls; avoid prolonged skin contact.
Engineering controls	Ensure adequate ventilation. Particularly important for confined drain access points.
OEL	No specific OEL established. Apply the ALARP principle.

6. FIRST AID MEASURES

Route of Exposure	First Aid Action
Eye contact	Irrigate immediately with clean water or saline for at least 15 minutes. Seek medical attention if irritation persists.
Skin contact	Wash affected area thoroughly with soap and water. Remove contaminated clothing. Seek medical attention if irritation develops.
Ingestion	Do not induce vomiting. Rinse mouth with water. Seek immediate medical attention. Show this document to the treating physician.
Inhalation	Remove to fresh air immediately. If symptoms persist seek medical attention. Rest and keep warm.

7. RISK ASSESSMENT MATRIX

Activity / Task	Hazard	Who at Risk	Inherent Risk (LxS)	Residual Risk	RAG
Dispensing product into drain or soakaway	Eye/skin contact with liquid; splash	Operator	2x2=4	1x1=1	LOW
Applying to grease trap / fat interceptor	Skin/eye contact; exposure to FOG odours	Operator	2x3=6	1x2=2	LOW
Mixing / diluting product	Skin/eye contact	Operator	2x2=4	1x1=1	LOW

Activity / Task	Hazard	Who at Risk	Inherent Risk (L×S)	Residual Risk	RAG
Accidental spill in kitchen/drain area	Skin/eye contact; slip hazard on wet floor	All personnel	2×3=6	1×2=2	LOW
Storage in original sealed container	Container failure; leakage	Storeman	1×1=1	1×1=1	LOW

L = Likelihood (1–5) | S = Severity (1–5) | Risk = L × S | LOW ≤8 | MEDIUM 9–15 | HIGH ≥16

8. CONTROL MEASURES & SAFE HANDLING

- Wear safety goggles when dispensing product directly into drains, grease traps, or confined access points.
- Wear nitrile or latex gloves for all direct handling and dispensing operations.
- Apply at the end of service or overnight to maximise contact time. Do not flush with water for a minimum of 4–6 hours after application.
- Allow 24 hours between chemical drain cleaners, caustic soda or bleach and biological treatment of the same drain.
- Store in original sealed containers in a cool, dark location (4–25°C).
- Avoid ingestion. Do not eat, drink, or smoke when handling product.
- Wash hands thoroughly with soap and water after handling.
- Keep away from children and untrained personnel.

9. STORAGE, SPILLAGE & DISPOSAL

Topic	Guidance
Storage conditions	Store in a cool, dark ambient environment. Keep away from direct sunlight and heat sources. Keep container sealed when not in use.
Incompatible materials	Do not store alongside strong oxidising agents, chlorine-based disinfectants, or heavy-metal-containing compounds. These will destroy the bacterial culture.
Spillage — small	Collect product. Mop or absorb with inert material. Wash down with water and dry.
Spillage — large	Collect product with inert absorbent material (spill kits). Dispose of as normal liquid waste to sewage in accordance with local regulations. Wash area with water and dry.
Disposal — product	Follow applicable national and local regulations for disposal of liquid waste. Product is fully biodegradable; small quantities may be disposed of directly to sewage.
Disposal — packaging	Recycle plastic and paper-based packaging in accordance with local authority requirements.

10. TRANSPORT INFORMATION

UN Number	Not applicable — not classified as dangerous goods
ADR/RID Class	N/A
IMDG Class	N/A
IATA Class	N/A
Marine Pollutant	No
Special Provisions	None required. May be transported under standard commercial conditions.

11. REGULATORY FRAMEWORK

Regulation / Standard	Status
COSHH Regulations 2002 (as amended)	Assessment conducted in compliance.
REACH — Regulation (EC) No 1907/2006	All components registered or exempt. Xanthan gum and food dye are EU food-grade approved. No SVHC above threshold.
CLP — Regulation (EC) No 1272/2008	Mixture assessed by the calculation (additivity) method. Not classified as hazardous — no H-statements, no pictogram, no signal word.
Biocidal Products Regulation (EU) 528/2012	Product is a biological wastewater treatment preparation and makes no biocidal claims. Not classified as a biocidal product under BPR.
Directive 2000/54/EC — Biological Agents	No biological hazard identified; organisms are non-pathogenic environmental isolates (BSL-1), confirmed negative for anthrax toxin and B. cereus enterotoxin.
ECHA Classification	Not classified as hazardous under CLP/GHS criteria.
Biodegradability (OECD 301)	All components readily biodegradable or naturally occurring.

12. ASSESSMENT SIGN-OFF

Field	Detail	Field	Detail
Assessed By	James Mulcair	Role	Health, Safety & Environmental Director
Qualifications	NVQ Level 6 Occupational Health & Safety, CertIOSH MIIRSM	Organisation	Summit Bridge Limited
Date of Assessment	September 2026	Review Date	September 2027
Authorised By	James Mulcair	Signature	Pending signature (Revision 2.0)

13. APPLICATION GUIDE — DOSAGE, CONCENTRATION & FREQUENCY

Important — Indicative Rates: The dosage figures below are indicative guidance derived from the manufacturer's written guidance, standard biological treatment practice and comparable product benchmarks. They have not yet been validated against site-specific conditions for each client engagement. Actual rates must be reviewed and confirmed by Summit Bridge Ltd prior to client recommendation. Adjust all rates based on effluent volume, organic load (BOD₅/COD), temperature, pH, and existing microbial community status.

13.1 Dosage Rates by Sector, System & Application Point

Sector / System	Application Point	Concentration	Start-up Dose	Maintenance Dose	Frequency
Hospitality — Restaurant	Kitchen floor drain (light FOG load)	25–50 ml per drain/week	100 ml per drain at commissioning	25–50 ml/week per drain	Weekly overnight dose; do not flush for 6 hrs
Hospitality — Restaurant	Kitchen floor drain (heavy FOG load / 400–500 covers/day)	Up to 500 ml per drain nightly	500 ml per drain for 5 consecutive nights	100–250 ml per drain nightly	Nightly automated or manual dose; apply after peak service

Sector / System	Application Point	Concentration	Start-up Dose	Maintenance Dose	Frequency
Hospitality — Hotel	Grease trap / fat interceptor (<1,000 L capacity)	50–100 ml per trap	200 ml per trap (single priming dose)	50–100 ml/week	Weekly; apply at period of lowest flow (overnight)
Hospitality — Hotel	Grease trap / fat interceptor (1,000–5,000 L capacity)	100–250 ml per 1,000 L trap volume	500 ml per trap at commissioning	100–250 ml per 1,000 L/week	Weekly; increase to bi-weekly in high-use periods
Food & Beverage	Grease trap (food processing / manufacturing)	100–200 ml per 1,000 L trap volume	250–500 ml per trap at commissioning	100–200 ml per 1,000 L/week	Weekly; monitor trap odour and FOG levels monthly
General Industrial	Soakaway pit / infiltration system	50–100 ml per m ³ pit volume per week	200 ml per m ³ at commissioning	50–100 ml per m ³ /week	Weekly pour-down; allow natural percolation
General Industrial	Sewer / drain line (maintenance of biofilm)	16–32 g per drain weekly	16 g per drain daily for 7 days (cleanout)	32 g per drain twice weekly	Twice weekly for floor drains; weekly for other lines
Oil & Gas	Hydrocarbon / FOG-contaminated drain system	100–200 ml per drain/week	200–500 ml per drain at start-up	100–200 ml/week	Weekly overnight; do not flush for 6 hrs post-dose

Manufacturer's written guidance on the general regime: start-up at typically five times the maintenance rate, tuned down on measured performance to the maintenance floor. The commissioning and cleanout doses above are the drain-line expression of that regime. All liquid doses are of undiluted product unless a dilution ratio is stated.

13.2 Concentration Guide

Product form	Ready-to-use Powder (yellowish-brown). Suitable for direct application or dilution.
Standard working concentration	Undiluted for direct drain and grease trap dosing in most applications.
Dilution for large-volume systems	Dilute 1:5 to 1:10 with warm water (30–40°C) for application to large soakaway pits or high-flow drain systems.
Maximum single-dose concentration	500 ml undiluted per drain per application (restaurant / heavy FOG). Do not exceed without site assessment.
Minimum effective concentration	25 ml per drain per week for light-duty maintenance in low-traffic drain lines.
Viable bacterial count (indicative)	Approximately 1×10^9 CFU/ml at point of manufacture. Strains selected for FOG and drain biofilm environments.
Activation time	Process-dependent; typically germination within 1 hour of dosing and active growth within 4 hours (manufacturer's written position).
Shelf life at recommended storage	24 months from date of manufacture in cool, dark sealed conditions. Use within 14 days of opening.

13.3 Operating Conditions for Optimal Biological Performance

Parameter	Optimum Range	Minimum	Maximum
Temperature — manufacturer stated operating range	28°C	10°C	80°C

Parameter	Optimum Range	Minimum	Maximum
Temperature — Summit Bridge recommended operating window	20–35°C	10°C	45°C
pH — manufacturer stated operating range	6.8	3.5	10
pH (in drain/system) — Summit Bridge recommended operating window	5.5–8.0	4.5	9.0
Dissolved oxygen	Aerobic at the biofilm surface	Facultative to fully anaerobic — spores survive without growing	Saturation
FOG Load (target system)	Low to moderate	Trace FOG	Heavy FOG (increase dose)
Contact time (post-application)	6–8 hours minimum	4 hours	24+ hours (optimal for biofilm formation)
Drain flow velocity	Low (overnight / off-peak)	Static	High-flow (reduce to off-peak dosing only)
Chlorine / detergent residual	<0.1 mg/L free chlorine	0 mg/L	0.3 mg/L (marginal; rinse drain before dosing)
Water temperature in drain	20–30°C for dosing	10°C	45°C
Shelf life (in-use container)	Use within 7 days of opening	N/A	Do not store opened container for >14 days

Manufacturer stated operating ranges are the ranges within which the manufacturer reports the consortium remains viable and active across its applications. Summit Bridge recommended operating windows are the conditions under which Summit Bridge specifies and supports a dosing regime without site-specific confirmation. Applications outside the recommended window are confirmed per asset.

13.4 Dose Escalation & Shock Recovery Protocol

Scenario	Recommended Action	Dose Multiplier	Notes
New installation / commissioning	Apply cleanout dose for 5–7 consecutive days	5–7× the weekly maintenance dose (daily)	Establish initial biofilm on pipe walls. After cleanout period, reduce to weekly maintenance.
Drain blockage / slow drainage	Daily cleanout dose for 7 days or until clear	16 g or 100–200 ml per drain daily	Where a mechanical obstruction is present, clear it physically first; biological treatment then maintains the line.
Grease trap odour complaint	Double maintenance dose for 2–4 weeks	2× maintenance rate	Apply immediately after the peak service period. Ensure minimum 6-hour contact time. Check trap is not overloaded.
Post-chemical drain cleaner use	Flush drain, wait 24 hrs, then apply full cleanout dose	Full cleanout dose for 5–7 days	Chemical cleaners remove the bacterial biofilm. Full re-inoculation is necessary before returning to maintenance dosing.
High-frequency / high-cover events (>500 covers/night)	Increase to nightly dosing	Nightly dose (250–500 ml per drain)	Automated dosing units recommended for high-volume commercial kitchens.
Winter / seasonal slowdown	Maintain regular schedule; increase contact time	1× maintenance; apply earlier in evening	Lower temperatures reduce bacterial activity. Allow additional 2–4 hours contact before morning service.

13.5 Step-by-Step Application Method

- Identify all drain lines, floor drains, grease traps, and soakaway points to be treated and map the drainage system.
- Calculate the total number of dosing points and the volume/capacity of each grease trap or soakaway pit.
- Using the dosage table in Section 13.1, calculate the required dose per drain per application.
- For drain lines and floor drains: measure the required volume using a calibrated dispenser or dosing bottle.
- Apply product directly into the drain opening or closest accessible access point. Pour slowly to coat the pipe walls.
- Do not run water down the treated drain for a minimum of 4–6 hours after application — contact time is critical for biofilm establishment.
- For grease traps: apply the measured dose directly to the grease trap inlet port or upstream drain. Apply at the end of the last service period of the day.
- For soakaway pits: pour the calculated dose (diluted 1:5 with warm water if required) directly into the pit access point and allow to percolate naturally.
- For automated dosing systems: connect a peristaltic dosing pump to the product container. Set timer to dispense during the lowest-flow period (typically 23:00–02:00).
- Record date, volume, dosing point, and any observations (odour, drain flow speed, grease trap condition) in the site maintenance log.
- Review drain performance and grease trap condition monthly. Adjust dose or frequency as required.

13.6 Frequency Summary

Phase / Scenario	Recommended Frequency
Commissioning / cleanout phase (Days 1–7)	Daily dose at cleanout rate (5–7× weekly maintenance)
Establishment phase (Weeks 2–4)	3× weekly at maintenance dose to build biofilm
Routine maintenance — light FOG (low covers)	Weekly overnight dose
Routine maintenance — heavy FOG (high covers / 400+ covers/night)	Nightly automated dose via dosing unit
Grease trap maintenance	Weekly; increase to bi-weekly during peak season or high-use periods
Post-chemical drain cleaner event	Daily cleanout dose for 5–7 days before returning to maintenance
Soakaway / infiltration system	Weekly pour; monitor percolation rate monthly
Performance review	Monthly drain inspection and grease trap survey. Adjust dose accordingly.

13.7 Operating Notes & Incompatibilities

- Allow 24 hours between chemical drain cleaners, caustic soda or bleach and biological treatment; these remove the bacterial biofilm.
- Free chlorine at the dosing point should be below 0.3 mg/L; rinse the drain with clean water before dosing where residuals are higher.
- Not for application to potable water systems or any water intended for human consumption.
- Allow 6 hours after dosing before mechanical flushing or high-pressure jetting, so the biofilm can establish.
- Do not mix product with quaternary ammonium compounds (QACs) or other disinfectants prior to application.
- Drains carrying direct hot-water discharge above the Summit Bridge recommended window (45°C): the manufacturer's stated range extends to 80°C; confirm the application with Summit Bridge before dosing.
- Use within the 24-month shelf life and within 14 days of opening; viable count declines beyond these points.
- Mechanically obstructed or collapsed drain infrastructure is cleared physically first; biological treatment then maintains the line.

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