

1. PRODUCT IDENTIFICATION

Product Name	LithiShield™
Product Category	Lithium Hardener / Densifier — Penetrating Liquid
Product Code	LithiShield™ S12
Manufacturer	Levelcore Industries
Address	46 Buckingham Dr, Wangara WA 6065, Australia
Website	levelcore.com.au
Intended Use	Penetrating lithium silicate concrete hardener and densifier for polished concrete floors, industrial slabs, warehouses, parking decks, and terrazzo. Applied during the polishing sequence to harden and densify the substrate from within.
Standard	JC/T 2158-2021 Penetrating Liquid Hardener

2. PHYSICAL & CHEMICAL PROPERTIES

Physical State	Transparent homogeneous liquid	Colour	Colourless (clear)
Base Chemistry	Lithium polysilicate solution	pH	11.5
Specific Gravity	1.1 – 1.2 g/mL (approx.)	VOC Content	Not detected (<2 g/L)
Flammability	Non-flammable	Solids Content	45%
Odour	Essentially odourless	Appearance	Transparent; no visible film after curing

3. COMPOSITION / KEY INGREDIENTS

CAS No.	Chemical Name	Proportion
12627-14-4	Lithium Polysilicate	35 – 40%
Not Available	Proprietary carrier and stabiliser ingredients	50 – 70%

4. VERIFIED TECHNICAL PERFORMANCE (Model S12)

Test Item	Requirement / Limit	Result
Appearance	Transparent homogeneous liquid	Compliant
pH Value	≥ 10.0	11.5 — Compliant
Wear Resistance (AR2)	≤ 0.20 mm	0.07 mm — Compliant
Surface Hardness	≤ 4.5 mm	4.3 mm — Compliant

24h Surface Water Absorption	≤ 5.0 mm	3.5 mm — Compliant
VOC Content	≤ 20 g/L	<2 g/L (not detected) — Compliant
Solid Content	Indicated value ±2%	45%

5. APPLICATION SUMMARY

Application Method	Pump-up sprayer or HVLP sprayer	Coverage Rate	12 – 15 m ² per litre
Dwell Time	20 – 30 min (surface must remain wet throughout)	Temperature Range	5°C – 40°C; do not apply in frost/rain
Substrate Requirement	Mechanically prepared concrete; clean, dry, dust-free	Dilution	None — apply directly; do not dilute
Process Stage	Applied during polishing sequence after initial grind	Suitable Surfaces	New and existing concrete, polished concrete topping, terrazzo, sanded floors

6. HEALTH, SAFETY & REGULATORY SUMMARY

LithiShield™ is alkaline (pH ~11.5). It is non-toxic and non-flammable under normal conditions but requires eye and skin protection during application. It is not classified as a Dangerous Good.

GHS Classification	Not classified as hazardous (non-toxic, non-flammable)
Dangerous Goods (ADG)	Not regulated
PPE — Eyes	Chemical splash goggles during spray application
PPE — Hands	Nitrile or neoprene chemical-resistant gloves
First Aid — Eyes	Flush with running water ≥15 min; seek medical advice
First Aid — Skin	Wash immediately with soap and water
First Aid — Ingestion	Do not induce vomiting; seek immediate medical attention
Spill Response	Contain; do not allow to enter drains; neutralise with dilute acid for large spills

7. STORAGE, SHELF LIFE & WARRANTY

Storage Temperature	5°C – 35°C; protect from freezing (freezing permanently alters chemistry)
Storage Conditions	Cool, dry, well-ventilated; sealed container away from acids
Shelf Life	12 months from production date (unopened)
Transport Classification	Non-hazardous chemical — standard freight
Warranty	10-Year System Warranty eligible when installed by Levelcore Accredited Installer
Warranty Contact	warranty@levelcore.com.au 1800 717 398

LithiShield™

MATERIALS DATA SHEET

LEVELCORE

PRECISION UNDERFOOT

★ 10-YEAR SYSTEM WARRANTY ELIGIBLE ★

This MDS summarises data from the LithiShield™ TDS, SDS, and levelcore.com.au. Always refer to the current TDS and SDS for full technical and safety information. © 2025 Levelcore Industries.