

SAFETY DATA SHEET

FORCE BLEACH CONC

1. IDENTIFICATION OF SUBSTANCE AND OF THE COMPANY

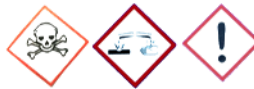
Product Name : **FORCE BLEACH** (Concentrated)
Company : CHEMFORCE PTE LTD
 2B Sungei Kadut Drive
 SINGAPORE 729555
Telephone : +65 63652833
Fax : +65 63652700
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2. INFORMATION ON INGREDIENTS

1. Anionic Surfactants % - Biodegradability 99%
2. Sodium Hypochlorite - > 50
3. Soda Ash Dense < 5

3. HAZARDS IDENTIFICATION

Fire/Explosive Hazards: Non combustible



4. FIRST-AID MEASURES

Eye Contact : Wash eyes thoroughly with water for 15 minutes
Skin Contact : Immediately wash off with plenty of water. Remove contaminated clothes immediately.
Ingestion : Give plenty of milk and seek medical attention immediately
Inhalation : Remove patient from contaminated area. Summon medical attention

5. FIRE FIGHTING MEASURES

Fire-fighting media : Not needed
 Protective equipment for fire-fighting: Fire fighters should use full protective clothing and full-face positive pressure self-contained breathing apparatus.
 Special risks: Non-combustible but surrounding fire may liberate hazardous vapours. In the event of fire, chlorine/hydrochloric acid may develop.
 Other information: Prevent fire-fighting water from entering surface water or groundwater, cool container with spray water from a safe distance. Contain escaping vapours with water.

SAFETY DATA SHEET

FORCE BLEACH CONC

6. ACCIDENTAL RELEASE MEASURES

Personal protective equipment : Avoid contact with skin / eye. Do not inhale vapour / aerosols. Ensure Supply of fresh air in enclosed room. Use full protective clothing, rubber gloves, rubber boots, and eye goggles.

Procedure to stop / minimize:

1. Prevent further leakage if it is safe to do so.
2. For minor spill /Leak, contain spills and soak up with suitable absorbent and forward to licensed waste disposal contractors for disposal,
3. For the contained spill/leak, render harmless by carefully addition of a suitable reducing agent. such as sodium thiosulfate solution. Assistance can be obtained from licensed waste disposal contractors / supplier.
4. If major spill/leak is not under control, Inform SCDF & SPF.
5. Clean up affected area.

7. HANDLING & STORAGE

Usual Shipping containers : FRP (fibre-reinforced plastic) / polyethylene tankers; polyethylene drums / carboys.

Handling : Containers may be under pressure. Sensitive to light. Has limited shelf life. Keep containers closed. Handle containers with care. Container remains hazardous when empty. Continue to observe all precautions until it had been properly washed.

Storage : Do not use metal containers. Store at ambient temperature and in a well-ventilated area away from incompatible materials (see also section 10). Keep away from light and source of heat / ignition. May decompose forming oxygen gas when stored over long period. Closed containers may be under pressure. Open with care / use container caps with vent, if available.

8. EXPLOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls :

- Provide adequate general and/or local ventilation in areas of storage and use where sodium hypochlorite vapour / aerosols is present to meet PEL (personal exposure limit) Requirements.

Provide water supply / emergency eyewash / shower near area of handling.

Safe work practices / industrial hygiene :

- Wash hands and face after working with the substance, and before eating / drinking. Immediately remove contaminated clothing. Wash before re-using.

Personal protection :

1. Eye protection: Use safety goggle / face shield.
 2. Skin protection: Use rubber gloves, protective clothing and rubber boots. Chemical resistance of materials should be ascertained with the vendor.
 4. Respiratory protection : Use approved half-face filter respirator suitable for the substance to be worn when vapour / fume of the material is present
 5. Other protective equipment : Uniform, apron, long-sleeved lab coat
- Occupational exposure standards :TWA 8 hours = data not available

SAFETY DATA SHEET

FORCE BLEACH CONC

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance : Clear, greenish-yellow liquid
Boiling point (at 1013 hPa) : 96 -99°C
Melting point : -16°C
Vapour pressure (at 20°C) : About 25 hPa
Specific gravity (at 20°C) : 1.18 -1.22
Solubility in water (at 20°C) : Completely soluble
Corrosiveness: Material is a strong oxidizing agent. Will react with acids violently to release chlorine gas.
Viscosity (dynamic, at 20°C) : 2.6 mPa'

10. STABILITY AND REACTIVITY

Stability: Unstable (when warmed)
Conditions to avoid instability: Heat, direct sunlight, low pH
Hazardous decomposition products: Chlorine gas (when mixed with acids)
Oxygen gas (over prolonged storage)
Hazardous gases (when mixed with ammonium or ammonia containing compounds)
Conditions to avoid polymerization: Polymerization will not occur.
Materials & conditions to avoid: Metals /acids /ammonium or ammonia containing compounds / organic compounds / (incompatibility) reducing agents / hydrogen peroxides / permanganates.
Further information: Material is light sensitive. Avoid metals in working materials.

11. TOXOLOGICAL INFORMATION

Acute toxicity: LC50 (oral, rat) - 8200 mg/kg (calculated on pure substance)
Eye irritation test (rabbit) - burns
Skin irritation test (rabbit) - burns
No sensitization effect in man.
Non-carcinogenic in animal experiments.

12. ECOLOGICAL INFORMATION

Eco toxicity : Harmful effect on aquatic organisms due to pH shift.
Corrosive even when diluted.
Fish toxicity : Onchorhynchus my kiss LC50: 0.07 moll/48 h (calculated on pure substance)
Daphnia toxicity : Daphnia magna EC50: 0.07 - 0.7 moll/24 h (calculated on pure substance)
Bacterial toxicity : Photo bacterium phosphorous EC50: 100 moll/15 min (calculated on pure substance)
Further ecological data: Prevent liquid from entering sewer, surface water, ground water and soil. Advise authorities if substance has entered a watercourse / drain / soil.

13. DISPOSAL CONSIDERATIONS

Considerations: Do not dispose substance directly to sewerage, ground-water and surface-water system.
Render harmless the recovered substance / water washing by careful addition of a suitable reducing agent, such as sodium thiosulfate solution. Consult approved waste collectors for disposal.

SAFETY DATA SHEET

FORCE BLEACH CONC

14. TRANSPORT INFORMATION

Proper shipping name (for land I sea I air) SODIUM HYPOCHLORITE SOLUTION

	UN No.4	Hazard class	PSA Groups
Land [The Environmental Pollution Control (Hazardous substances) Regulations 1	1791	8	III
Sea (IMDG6/ IM07)	1791	8	III
Air (ICA08/IATA9)	1791	8	III

15. REGULATORY INFORMATION

In Singapore:

Import & sale of hazardous substances: Environmental Protection and Management (Hazardous Substances) Regulations

Disposal of obsolete I expired: Environmental Public Health (Toxic Industrial Waste) Regulations chemicals I waste

Symbol : C Corrosive

R-phases: R 31-34 Contact with acids liberates toxic gas. Causes burns.

S-phases: S 26-28-36/37/39-45-50 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Do not mix with acids.

	Hazard type	Hazard class.	UN No.	Hashem code
Sodium hypochlorite (Na OCl)	Corrosive	8	1791	2R
NFPA rating 10	Health	Reactivity	Flammability	Other
	3	0	0	OXY

OXY=OXIDIZING

16. OTHER INFORMATION

Revision No.	Date of issue	Description of changes
F	January 2011	Add GHS Classification, GHS labels and overall reviewed and updated according to SS 586 : Part 3 : 2008
E	Aug 2008	Document Title change to Safety Data Sheet, Section No.2 to 3 and 3 to 2. Changed Section 15 'Environmental Pollution Control (Hazardous Substances) Regulations' to 'Environmental Protection and Management (Hazardous Substances) Regulations. Reviewed on section 16 according to guideline on preparation.(S134/2006)
D	Seat 2005	Complete review and deleted ISO loco
C	Feb 2003	Complete review; re-format to guidelines in The Code Of Practice for preparation and use of MSDS; up-date of manufacturer & supplier's contacts; included NFPA ratings; MSDS revision identification changed from 'number' to 'aloabeht' format.
B	July 1999	Up-dating of manufacturer & supplier's contacts
A	July 1997	Initial release