

Safety Data Sheet (SDS) Tuff Clean

Section 1: Identification

Product Identifier:	Tuff Clean
Recommended Use:	Tuff Clean is a heavy duty, specialty acid based cleaner for fast removal of hard and difficult stains. It can also remove calcium scales, tough rust stains from floor and general cleaning of sanitary ware. It is ideal for water mark stains, mosaic tiles stains. Biodegradable
Supplier:	Consolidated System(S) Pte Ltd 38 Tuas View Loop Singapore 637695 Tel: +65 6861 6328 (Mon-Fri 8:30am – 5:30pm) Fax: +65 6861 3237 Email: sales@consolidatedsystem.com.sg

Section 2: Hazards Identification

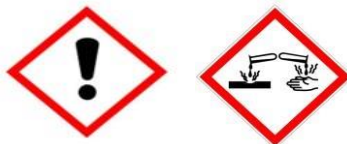
GHS Classification

Skin Corrosion / Irritation:	Category 1C
Serious Eye Damage / Irritation:	Category 1

Note: When using Tuff Clean, users are advised to wear gloves and goggles to prevent skin and eye irritation. Tuff Clean should not be used on metallic surface as it may corrode metals. Neutralise after with alkaline solution

GHS Label Elements

Pictograms:



Signal Word:	Warning	Skin Corrosion
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Hazard Statements:

H302 + H312:	Harmful if swallowed or in contact with skin.
H314:	Causes severe skin burns and eye damage

H290: May be corrosive to metals.

Precautionary Statements:

P102: Keep out of reach of children.
P103: Read label before use.
P260: Do not breathe fumes / gas
P262: Do not get in eyes, on skin or on clothing
P264: Wash thoroughly after handling.
P280: Wear protective gloves, eye protection, face protection.

Response:

P301 + P330 + P331: If Swallowed: Rinse mouth, Do NOT induce vomiting.
P303 + P361 + P353: If on Skin: Remove/take off immediately all contaminated clothing. Rinse skin with water / shower.
P304 + P341: If Inhaled: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P352: (After handling) Wash hands thoroughly with soap and water.
P363: Wash contaminated clothing before reuse.
P305 + P351 + P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Storage:

P405: Store locked up.
P402: Store in a dry place.
P406: Store in corrosive resistant container with a resistant inner liner

Disposal:

P501: Dispose of contents / containers in accordance with Singapore regulations.

Section 3: Composition / Information on Ingredients

Component Name	CAS	Composition
Inorganic acid		20-35%
Non-ionic Surfactant		5-15%

General Advice:

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Seek medical advice if you feel unwell. Show this safety data sheet to the doctor in attendance.

Inhalation:

If inhaled, move person into fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Do not use mouth to mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give artificial respiration if victim is not breathing.

Skin Contact:

After handling, wash hands thoroughly with soap and water.

If on skin, remove/take off immediately all contaminated clothing. Rinse skin with water / shower. Wash contaminated clothing before reuse.

Eye Contact:

If in eyes: Rinse cautiously with water for 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If irritation persists, seek medical advice.

Ingestion:

If Swallowed: Rinse mouth, Do NOT induce vomiting. If swallowed give 2-3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. Seek medical advice immediately. Do not use mouth to mouth method if victim ingested the substance. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media:

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific Hazards Arising From the Chemical:

Not combustible. Under fire conditions, toxic, corrosive fumes are emitted. Do not allow run-off from fire fighting to enter drains or water courses.

Special Protective Actions for Fire Fighters:

Structural fire fighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Measures:

For personal protection, see section 8. Use personal protective equipment (e.g. gloves, boots) and ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing

Environmental Precautions:

Do not flush into surface or sanitary sewer system. If the product contaminates rivers, reservoirs or drains, inform respective authorities.

Methods and Materials for Containment and Cleaning Up:

Exercise caution during neutralization as considerable heat may be generated. Neutralize spill area with soda ash, sodium bicarbonate or lime. Flush neutralized spill with copious amounts of water.

Dike spill using absorbent or impervious materials such as earth, sand or clay.

Section 7: Handling and Storage

Precautions for Safe Handling:

For personal protection, see section 8. Avoid contact with eyes, skin and clothing. After handling, always wash hands thoroughly with soap and water. Do not get on skin or in eyes. Avoid breathing vapours and mists. Do not ingest. Handle and open container with care. Use only with adequate ventilation. Use caution when combining with water; DO NOT add water to corrosive liquid, ALWAYS add corrosive liquid to water while stirring to prevent release of heat, steam and fumes. This product reacts violently with bases liberating heat and causing spattering

Conditions for safe storage, including any incompatibilities:

Store in a cool/low temperature, well ventilated, dry place. Store locked up. Keep away from incompatible materials. Ventilate enclosed areas.

Section 8: Exposure Controls/Personal Protection**Control Parameters / Occupational Exposure Limits:**

TWA 1mg/m³ PEL

TWA is the time-weighted average airborne concentration over an eight hour working day, for a five day working week over a working lifetime.

Appropriate Engineering Control Measures:

Effective exhaust ventilation system. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protection:**Respiratory Protection:**

In case of vapour formation, use a respirator with an approved filter

Skin Protection:

Wear chemical resistant gloves such as Nitrile Rubber. Also recommended to wear chemical resistant safety boots. Always decontaminate your PPE after every use.

Eye Protection:

Wear safety glasses as a minimum eye protection. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice.

Section 9: Physical and Chemical Properties

Appearance at 25°C: Transparent Clear
Liquid

Odour: N.A.

Property:

pH: 1 (+/- 0.5)

Freezing point: N.A.

Initial boiling point / range: Not available

Flashpoint: Not available

Evaporation Rate: Not available

Flammability:	N.A.
Upper/lower flammability:	N.A.
Vapour Pressure:	Non volatile
Vapour Density:	N.A.
Relative Density:	1.06 g/ml
Solubility in water at 25°C:	Completely soluble
Partition Coefficient:	N.A.
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available

Section 10: Stability and Reactivity

Reactivity: N.A.

Chemical Stability:

The product is stable.

Possibility of Hazardous Reactions: Stable under normal conditions.

Conditions to Avoid: N.A.

Incompatible Materials:

Fluorine, strong oxidizing agents (e.g. bleach), strong reducing agents, bases, metals, sulphur

Hazardous Decomposition Products:

Section 11: Toxicological Information

This material is acidic. The primary effects and toxicity of this material are due to its corrosive nature.

Inhalation:

Acute (Immediate) – may cause corrosive burns with irreversible damage

Chronic (Delayed) – Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough.

Skin:

May cause skin irritation in susceptible persons

Skin inflammation is characterized by itching, scaling, reddening or occasionally, blistering. Effect will depend on concentration and length of time of exposure

Eyes:

May cause irreversible eye damage

Ingestion:

Causes corrosion, burns to mouth and esophagus, abdominal pain, chest pain, nausea, vomiting, diarrhea, seizures. Aspiration of the swallowed or vomited product can cause severe pulmonary complications. May cause gastrointestinal disturbances.

Section 12: Ecological Information

Ecotoxicity Effects:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

Persistence and Degradability

Biodegradable while acidity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.

Bioaccumulative Potential

No available information

Mobility in Soil

No available information

Other Adverse Effects N.A.

Section 13: Disposal Considerations

Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from the clean-up operations may be hazardous wastes and therefore, subject to specific regulations. Use only licensed transporters and permitted facilities for waste disposal.

Section 14: Transport Information

This product follows IATA regulations. UN Number: 3264 Class 8, packing group III

Section 15: Regulatory Information

Applicable National Regulations:

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subject to the SDS, labelling and other requirements in the Act/Regulations.

Environmental Protection and Management Act: This product is subject to the requirements in the Act/Regulations.

Section 16: Other Information

Usage information

Use neat for best results or a maximum dilution of 1:10

- First wet surface
- Apply on stain
- Lightly scrub
- Rinse well
- It is recommended to neutralise surface with an alkaline solution after

Note:

- Product is incompatible with bleach or other chlorinated detergents, mixing with bleach will release poisonous chlorine gas present in bleach
- Surface may be damaged if Tuff Clean left on surface without rinsing or neutralisation

Expiry date: 2 years from the date of production (unopened cap, intact seal, stored in normal temperature away from high heat and direct sunlight).

Date Created and Latest Revision(s)

20 June 2017: Date of issue of SDS

6 July 2019: Updated Section 1

1 March 2021: Updated Section 16

Product proudly manufactured in Singapore.

Consolidated System(S) Pte Ltd is a one-stop distributor of professional cleaning machines, janitorial supplies and professional cleaning chemicals. Please feel free to contact us if you have any questions on this product or face any cleaning problems.

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