

1. Identification of the Substance/Preparation:

Product name: TwinTech Plus
Company: Flairform Products
Address: 3 Parkinson Lane, Kardinya, Western Australia 6163.
Telephone Number: (+61) 8 9314 7595
Fax Number: (+61) 8 9314 7595
Emergency Telephone Numbers: (+61) 8 9433 5875; 0411 297 030 (mobile)

2. Composition/information on ingredients

TwinTech Plus is used for hydroponic cultivation. TwinTech Plus is a water based preparation used to help maintain the condition of hydroponic nutrient.

Common Name	CAS	EINECS	Classification	Conc
Chlorine compounds	-	-	-	Equivalent to 0.04% chlorine
Inert ingredients & water				to 100%

3. Hazards identification

TwinTech Plus is of low toxicity, but might cause skin and eye irritation upon contact and burning, etc (see below) if swallowed.

Swallowed: Burning in the mouth, throat and esophagus. May cause blistering of mucous membranes in mouth and throat. Severe pain, vomiting, diarrhea, lowered blood pressure and shock; possibly death.

Eye: Can penetrate deeply, causing irritation or burns depending on the duration of exposure. In severe cases, ulceration and permanent blindness may occur. Speed of treatment by irrigation is essential.

Skin: Contact dermatitis may result from working with this material. Can cause local irritation. Onset of irritation is hours rather than minutes.

Inhaled: On exposure to acids, chlorine gas may be evolved which causes irritation of the nose and upper respiratory tract, headache and coughing. Other symptoms of overexposure include nausea, vomiting dizziness, shortness of breath, cyanosis and chest pain. Exposure to high concentrations of chlorine can cause decrease in lung function, pulmonary oedema which may be delayed in onset, unconsciousness and death.

Inhalation of mists or aerosols will result in respiratory irritation and possible harmful corrosive effects including lesions of nasal and pulmonary oedema.

4. First-aid measures

Swallowed: Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. Do not induce vomiting. If victim can swallow give large quantities of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Obtain medical attention immediately.

Eye: Irrigate eyes with gently flowing water for 15 minutes with eyelids held open. Take care not to rinse the contaminated water into the non affected eye. If irritation persists repeat the flushing. Obtain medical attention immediately.

Skin: Wash effected area with flowing water for at least 15 minutes. Then, if available, rinse the effected area with vinegar or acetic acid (3% solution) or citric acid, tartaric acid, oxalic acid (1% solution). Start washing immediately while removing contaminated clothing. If irritation persists repeat the flushing for another 15 minutes. Completely decontaminate clothing, shoes and leather goods before reuse or discard. If irritation persists seek medical attention.

Inhaled: Remove source of contamination or move victim to fresh air. If chlorine concentration in the surrounding area is high, first obtain self contained breathing apparatus, DO NOT BECOME ANOTHER VICTIM. Stay with the victim and have a second rescuer obtain oxygen equipment and call an ambulance. Oxygen should only be administered by a person trained in the procedure. Give artificial respiration only if breathing has stopped. Give CPR if there is no breathing AND no pulse. Obtain medical attention immediately.

5. Fire fighting measures

Fire / Explosion: This product is not flammable. If containers are involved in a fire, heating of the containers may liberate chlorine gas which may rupture them. In certain cases, the liberation of chlorine gas can sustain fire or intensify fire. Reacts vigorously with some organic materials or reducing agents. If the containers are involved in a fire, try to keep them cool, but be aware that pressure build up may cause them to explode. Wear self contained breathing apparatus since chlorine may be evolved. Confine fire fighting water as product is a danger to aquatic life.

Flammability: Not flammable. In some cases vigorous reaction with some oxidisable materials may cause fire or enhance fire.

Extinguishing Media: Use water spray, CO₂, foam, or dry chemical powder.

6. Accidental release measures

Spills: In case of spill, if accidentally mixed with acid this product may liberate chlorine gas. If chlorine concentration is above the TLV, wear SCBA during clean up. Contain spill and absorb in solid absorbent (sand, inert material, vermiculite) and collect in open top sealable plastic drums for disposal. Very small spills can be diluted with water and washed away. However, prevent product from entering rivers, canals and other waterways. Harmful to aquatic life in low concentrations.

To deactivate, use a reducing agent such as sodium sulphite, sodium bisulphite. Ensure there is no residual chlorine, ONLY THEN, neutralise the remaining alkaline material with dilute acid.

Spillage's are slippery. Corrosive to aluminum, zinc, tin.

Disposal (After treatment above)

Refer to waste management authority.

7. Handling and storage

Store away from acids, heat (below 25°C) and direct sunlight. May decompose forming gaseous products, especially when stored over long periods. Do not mix with any other material.

Keep containers tightly capped at all times and store only in opaque containers. Do not store in aluminium or galvanised containers.

Regulatory Requirements: Follow applicable OSHA regulations.

8. Exposure controls/personal protection

Generally not a hazard when handled carefully and as instructed. However, as a precaution, especially if splashing of liquid is possible, suitable (approved) personal protective equipment appropriate to the task should be worn:

Hand: Use gloves resistant to alkalis (rubber or plastic).

Eyes: Approved chemical safety goggles or face protection. Contact lenses pose a hazard: Soft lenses may absorb irritants, and all contact lenses concentrate irritants. Particles may adhere to contact lenses and cause corneal damage.

Skin: Wear protective overalls buttoned at the wrist and neck (or bib resistant to alkalis) and impervious footwear. Sleeves of jackets or shirts should be buttoned over the glove wrists; trousers should be worn with the bottoms of legs outside the boots - not tucked in.

Respiration: Use an approved respirator - Seek professional advice.

Note, eye wash fountains and safety showers should be located near any area where large quantities of this product are handled.

Remove contaminated clothing promptly. Keep contaminated clothing in closed containers. Discard or launder before re-wearing.

Inform laundry personnel of contaminants hazards. Do not smoke, eat or drink in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping.

9. Physical and chemical properties

Appearance: Very pale yellow water based liquid

Boiling Point / Melting Point: Stable below 55°C. Above 55°C the decomposition rate depends on temperature.

Vapour Pressure: 17mm of Hg @ 20°C

Specific Gravity: 1.0

Flashpoint: Not flammable

Flammability Limits: Not flammable

Solubility in Water: Soluble in all proportions

pH: < 11.5 (Alkaline)

Corrosiveness: Corrodes aluminium, zinc, tin (long-term exposure). Reacts with acids with evolution of chlorine.

10. Stability and reactivity

Stable under normal conditions. Do not mix with acids or other chemicals as this could give rise to dangerous fumes (chlorine). Store away from heat (below 25°C) and direct sunlight. May decompose forming gaseous products, especially when stored over long periods. Keep containers tightly capped at all times and store only in opaque containers. Do not store in aluminium or galvanised containers.

11. Toxicological information

Toxicity Data:

Recommended exposure limit (for chlorine): TLV TWA 1ppm (peak).

LC50 (inhalation, rat) = 293 ppm for 1 hour (for chlorine).

Oral toxicity: LD50 (Rat) > 365 mg/kg.

Dermal LD50 = not available

Inhalation LD50 = not available

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Eye: Corrosive. Can penetrate deeply, causing irritation or burns depending on the duration of exposure. In severe cases, ulceration and permanent blindness may occur. Speed of treatment by irrigation is essential.

Skin: Contact dermatitis may result from working with this material. Can cause local irritation. Onset of irritation is hours rather than minutes.

Inhaled: On exposure to acids, chlorine gas may be evolved which causes irritation of the nose and upper respiratory tract, headache and coughing. Other symptoms of overexposure include nausea, vomiting dizziness, shortness of breath, cyanosis and chest pain.

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Inhalation of mists or aerosols will result in respiratory irritation and possible harmful corrosive effects including lesions of nasal and pulmonary oedema.

12. Ecological information

Prevent product from entering rivers, canals and other waterways. Harmful to aquatic life in low concentrations. A bacteriostat.

13. Disposal considerations

Observe local legislation.

14. Transport information

Not subject to ADR/IATA/IMDG codes.

15. Regulatory information

Risk phrases: Not classified

Safety phrases: S2 - Keep out of reach of children.

Poisons schedule: Not Scheduled.

Packaging & Labeling: No special packaging or labeling requirements.

16. Other information

If spillages are diluted with water, spread into a shallow film of less than a centimeter deep and exposed to the atmosphere and (especially) direct sunlight, all hazardous properties of this product decrease rapidly and would usually be rendered safe within a few hours.

DISCLAIMER

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification of further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. All information is as accurate and up to date as possible.