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# Material Safety Data Sheet

## Flora Kleen

### 1. Product and compagny identification:

**Product name :** FLORA KLEEN  
**Chemical Family :** Hydroponics plant flavor enhancer  
**Product Use:** A flush solution for removing nutrient residues from hydroponics systems  
**Supplier/Manufacturer:** GENERAL HYDROPONICS Europe  
boulevard du Biopole  
32500 Fleurance  
Tel: 05 62 06 08 30

### 2. Hazards identification

#### Emergency overview

**As part of good industrial and personal hygiene and safety procedure,  
avoid all unnecessary exposure to the chemical substance  
and ensure prompt removal from skin, eyes and clothing**

#### Potential Health Effects

**Ingestion:** Ingestion may cause gastro-intestinal distress.

**Eye:** May cause redness and pain

**Skin:** May cause mild irritation

**Inhalation:** May cause mild irritation

**Carcinogenicity:** CIRC, NTP, and OSHA do not list any ingredients as a carcinogen.

**Medical Conditions Aggravated by Long- Term Exposure:** Unknown

**Chronic Effects:** No adverse health effects expected **Other:** None

### 3. Composition/information on ingredients

**Ingredients:** Flora Kleen® Cleaning Flush Solution is a specially formulated mixture of chemicals that are mixed in proportions to assure adequate removal of nutrient residues. The chemical identity of the compounds and exact proportions used in the mixture are a trade secret.

**Exposure Limits:** No limits are established for exposure to the ingredients of Flora Kleen® Cleaning Flush Solution

### 4. First aid measures

**Inhalation:** Remove exposed person to fresh air and support breathing, if necessary. Consult a physician if respiratory distress continues.

**Ingestion:** If swallowed give several glasses of water to drink to dilute product. Never give anything by mouth to an unconscious person. Induce vomiting as directed by medical personnel. Call a physician.

**Eye Contact:** Do not allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water for at least 15 minutes. Consult a physician or ophthalmologist if pain or irritation develops.

**Skin Contact:** Wash exposed area with soap and water. For reddened or blistered skin, consult a physician.

**After first aid:** Get appropriate community medical support.

### 5. Fire-fighting measures

**Flash Point:** Unknown.

**Auto-Ignition Temperature:** Unknown.

**LEL:** Unknown.

**Flammability Classification:** Flora Kleen® Cleaning Flush Solution is not combustible.

**Burning Rate:** Unknown.

**Extinguishing Media:** Use dry chemical, carbon dioxide, water spray, fog, or foam.

**Unusual Fire or Explosion Hazards:** Container may explode in heat of fire.

**Hazardous Combustion Products:** Can decompose explosively in a fire.

**Special information:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece.

## **6. Accidental release measures**

**Personal precautions:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### **Methods for cleaning up**

**Small spill :** Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill :** Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## **7. Handling and storage**

**Handling :** Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage :** Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## **8. Exposure controls/personal protection**

**Airborne Exposure Limits:** None established

**Ventilation:** Provide general or local exhaust ventilation.

**Administrative Controls:** Avoid direct contact with the product.

**Respiratory Protection:** If this product is used as directed, respiratory protection is not required.

**Eye Protection:** protective eyewear. Contact lenses pose a special hazard. Soft lenses may absorb irritants, and all contact lenses concentrate irritants. Particles may adhere to contact lenses and cause corneal damage.

**Protective Clothing:** Wear impervious protective clothing when the possibility of skin or clothing contamination may exist. Wear neoprene or nitrile gloves when directly handling the product.

**Safety Stations:** Eye wash stations, quick drench showers, and washing facilities should be readily accessible to workers handling large quantities of Flora Kleen® Cleaning Flush Solution.

**Contaminated Equipment:** Remove this material from shoes and equipment. Launder contaminated clothing before wearing.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this product, especially before eating drinking, smoking, using the toilet, or applying cosmetics

## 9. Physical and chemical properties

**Physical State:** Aqueous solution

**Density:** 1.01

**pH:** 4.0

**Appearance and Odor:** Light blue odorless solution

**Odor Threshold Range:** Unknown

**Vapor Pressure:** Unknown

**Water Solubility:** Miscible

**Boiling Point:** 101<sup>o</sup>c

**Melting point:** -1<sup>o</sup>c

**Other Solubilities:** Unknown

## 10. Stability and reactivity

**Stability:** Stable under normal storage and handling conditions.

**Chemical Incompatibilities:** Flora Kleen® contains a low concentration of a chemical that when in a higher concentration may react with strong oxidizing agents.

**Conditions to Avoid:** Mixture with incompatible materials, high temperatures

**Hazardous Decomposition Products:** At extreme temperatures, CO, and harmful oxides may be evolved.

## 11. Toxicological information

None of the chemicals are considered toxic in the concentrations used in Flora Kleen® Cleaning Flush Solution. One low concentration ingredient is being investigated as a mutagen, reproductive effector. NTP, IARC, or OSHA lists no ingredients as a carcinogen.

## 12. Ecological information

**Ecotoxicity:** No known significant effects or critical hazards.

**Environmental Fate:** Not expected to be significant.

**Environmental Degradation:** Unknown.

## 13. Disposal considerations

**Waste disposal:** The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information

Regulatory information	Un number
DOT classification	Not regulated
IMDG Class	Nog regulated
DATA-DGR Class	Not regulated

## **15. Regulatory information**

**EPA Regulations:** Not listed.

## **16. Other information**

Flora Kleen® Cleaning Flush Solution is a flush solution for removing nutrient residues from hydroponics systems. Information assembled for this Material Safety Data Sheet is for the use of this product as intended by the manufacturer. Users should take all precautions recommended herein while working with this product.

General Hydroponics provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in using this product.