



Revised 1<sup>st</sup> April 2011.

## MATERIAL SAFETY DATA SHEET

### YM-FAB ACTIV -8

This material safety data sheet (MSDS) has been prepared in compliance with the federal OSHA communication standard, 29 CFR 1910.1200. This product may be considered to be a hazardous chemical under that standard. (Refer to the OSHA classification in Sec. 1.) this information is required to be disclosed for safety in the workplace. The exposure to the community, if any, is quite different.

Contacts: See Below

In case of emergency phone: 0417 168 990 or (03) 56295424

OR:

OCEAN NETWORK EMERGENCY PHONE: 1-800-OLIN 911

#### I. PRODUCT IDENTIFICATION

Product Name: Ym-Fab Activ 8

U.N No: 1748

Dangerous Goods Class: 5.1 (oxidizer)

Packaging Group: II

Use:- Sanitiser for post harvest treatment of fruit and vegetables and equipment.

#### II. COMPONENT DATA

Product Composition:

CAS or Chemical Name: Calcium hypochlorite

CAS Number: 7778-54-3

Percentage Range: 60-80%

Hazardous per 29 CFR 1910.1200: Yes

Exposure standards: 3mg/cubic meter (ceiling) as chlorine: Olin internal exposure standard.

#### STORAGE CONDITIONS:

Keep product tightly sealed in original containers. Store product in a cool, dry, well -ventilated area. Store away from combustible or flammable products. Keep product packaging clean and free of all contamination, including eg: other pool treatment products, acids, organic materials, nitrogen - containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials etc..

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DO NOT STORE AT TEMPERATURES ABOVE:- 52 Deg.C (125 Deg. F)

Storage above this temperature may result in rapid decomposition, evolution of chlorine gas and heat sufficient to ignite combustible products.

**PRODUCT STABILITY AND COMPATIBILITY:**

Shelf life limitations (that is, the period of time before the product goes below stated label strength) is determined by storage time and temperatures. Do not store product at temperature above 52 Deg C (125 Deg. F). When stored under moderate temperature conditions, product will maintain stated label strength for approximately two years. Prolonged storage at 35 Deg. C(95 Deg. F) or above will significantly shorten the shelf life. Storage in a climate controlled storage area or building is recommended in those areas where extremes of high temperature occur.

**INCOMPATIBLE MATERIALS FOR PACKAGING:** Product packaging must be clean and free of contamination by other materials, including eg: other pool treatment products, acids, organic materials, nitrogen - containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials etc..

**INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT:** Do not allow product to come in contact with other materials, including eg: other pool treatment products, acids, organic materials, nitrogen - containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, all corrosive liquids, flammable or combustible materials etc..

**IV. PHYSICAL DATA**

Appearance: White tablet form product.

Freezing Point: Not Applicable.

Boiling Point: Not Applicable.

Decomposition Temperature: Onset approx 170-180 Deg. C (338-356 Deg. F).

Specific Gravity: Not Applicable.

pH @ 25 Deg.C: 10.4-10.8 (1% soln).

Solubility in water: Approximately 18% @ 25 Deg.C (Product contains calcium hydroxide and calcium carbonate which will leave a residue).

Bulk Density: 0.8 g/cc, loose (granules), 1.9 g/cc (tablets)

Vapour Pressure @ 25 Deg.C: Not Applicable.

Volatiles, Percent by Volume: Not Applicable.

Evaporation Rate: Not Applicable.

Vapour Density: Not Applicable.

Molecular Weight: 143 (Active ingredient).

Odour: Chlorine like.

Coefficient of Oil/Water Distribution: Not Applicable.

**V. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS.**

Personal Protection For Routine Use of Product.

Respiratory Protection: Wear NIOSH/MSHA approved respirator if dusts are created.



Ventilation: Use local exhaust ventilation to minimise dust and chlorine levels where industrial use occurs. Otherwise, ensure good general ventilation.

Skin and Eye Protective Equipment. Wear gloves and safety glasses to avoid skin and eye contact. Where industrial use occurs, chemical goggles or full impermeable suit may be required.

Equipment specification (When Applicable):

Respirator Type: NIOSH/MSHA approved full face piece respirator with chlorine cartridges and dust/mist prefilter.

Protective Clothing Type: Neoprene (This includes gloves, boots, apron protective suit).

## **VI. FIRE AND EXPLOSION HAZARD INFORMATION**

This product is chemically reactive with many substances. Any contamination of the product with other substances by spill or otherwise may result in a chemical reaction and fire. This product is a strong oxidizer which is capable of intensifying once started.

### FLAMMABILITY DATA

Flammable: No

Combustible: No

Pyrophoric: No

Flash Point: Not Applicable.

Autoignition Temperature: Not Applicable.

Flammable limits at normal atmospheric temperature and pressure (Percent volume in air): UEL - Not Applicable. LEL - Not Applicable.

### NFPA RATINGS:

Health: 3

Flammability: 0

Reactivity: 1

Special Hazard Warning: OX (Oxidizer)

### HMIS RATINGS:

Health: 3

Flammability: 0

Reactivity: 1

### EXTINGUISHING MEDIA:

Water only.

### FIRE FIGHTING TECHNIQUES AND COMMENTS:

Use water to cool containers exposed to fire. Also see Section XI.

OTHER: Do not use dry extinguishers containing ammonium compounds.



## VII. REACTIVITY INFORMATION.

Conditions under which this product may be unstable:

Temperatures above: 170 Deg. C (338 Deg. F).

Mechanical shock or impact: No

Electrical (Static) discharge: No

Hazardous Polymerisation: Will not occur.

Incompatible materials: This product is chemically reactive with many substances, including eg; other pool treatment products, acids, organics, nitrogen-containing compounds, dry powder fire extinguishers (containing mono-ammonium phosphate), oxidizers, corrosive, flammable or combustible materials.

Hazardous Decomposition products: Chlorine gas.

Other conditions to avoid: Storage at temperature > 125 Deg. F (52 Deg. C).

Prevent ingress of humidity and moisture into container or package. Always close the lid.

### SUMMARY OR REACTIVITY: (See also section VI).

Oxidizer: Yes

Pyrophoric: No

Organic peroxide: No

Water reactive: No

Other: Olin calcium hypochlorite products meet the specifications of ASTM method E-487-74 as set forth in 49 C.F.R Sec 173.21, Title 49 Code of Federal Regs. (DOT Regs).

## VIII. FIRST AID

Eyes: Immediately flush with large amount of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

Skin: Immediately flush with water for at least 15 minutes. Call a physician. If clothing comes in contact with the product, it should be removed immediately and laundered before reuse.

Ingestion: Immediately drink large quantities of water. DO NOT induce vomiting. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

Inhalation: Remove victim to fresh air. Support respiration if needed. Call a physician.

## IX. TOXICOLOGY AND HEALTH INFORMATION.

Routes of absorption.

Inhalation, skin and eye contact, ingestion.

### **Warning statement and warning properties.**

**May be fatal if swallowed. Avoid breathing dust or fumes, harmful if product is inhaled in high concentrations. Causes skin, eye, digestive tract and respiratory tract burns.**



Human response data.

Odour threshold: Approximately 1.4 mg/cubic meter, based on odour threshold of chlorine.

Irritation threshold: 13-22 mg/cubic meter based on the irritation threshold of chlorine.

Immediately dangerous to life or health: Approximately 45 mg/cubic meter, based on IDLH concentration of chlorine.

SIGNS, SYMPTOMS AND EFFECTS OF EXPOSURE INHALATION:

Acute:

Inhalation of dust or vapour from this product can be irritating to the nose, mouth, throat and lungs. In confined areas, mechanical agitation can result in high levels of dust and reaction with incompatible materials (as listed in Section VII) can result in high concentrations of chlorine vapour, either of which may result in burns to the respiratory tract, producing lung edema, shortness of breath, wheezing, choking, chest pains, impairment of lung function and possible permanent lung damage.

Chronic:

Chronic (repeated) inhalation exposure may cause impairment of lung function and permanent lung damage.

Eye:

Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.

Skin:

Acute: Dermal exposure can cause severe irritation and/or burns characterised by redness, swelling and scab formation. Prolonged skin exposure may cause permanent damage.

Chronic: Effects from chronic skin exposure would be similar to those from single exposure except for effects secondary to tissue destruction.

Ingestion:

Acute: Irritation and/or burns can occur to the entire gastrointestinal tract, including the stomach and intestines, characterised by nausea, vomiting, diarrhoea, abdominal pain, bleeding and/or tissue ulceration. Due to the corrosive nature of this product, ingestion may be fatal.

Chronic: There are no known or reported effects from chronic exposure except for effects similar to those experienced from single exposure.

Medical conditions aggravated by exposure.

Asthma, respiratory and cardiovascular disease.

Interactions with other chemicals which enhance toxicity: None known or reported.

Animal Toxicology:

Acute Toxicity; Inhalation LC 50: Approximately 1300 mg/cubic meter (1 Hr., rat) - based on acute inhalation toxicity for chlorine.

Oral LD 50: 850 mg/kg (rat)

Dermal LD 50: >2 g/kg. (rabbit)



Causes burns to eyes and skin.

Chronic Toxicity: There are no known or reported effects from repeated exposure.

Reproductive Toxicity:

Calcium hypochlorite has been tested for teratogenicity in laboratory animals. Results of this study have shown that calcium hypochlorite is not a teratogen.

Carcinogenicity:

This product is not known or reported to be carcinogenic by any reference source, including: IARC, OSHA, NTP OR EPA.

One hundred mice were exposed dermally 3 times a week for 18 months to a solution of calcium hypochlorite. Histopathological examination failed to show an increased incidence of tumours.

IARC (International Agency for Research on Cancer) reviewed studies conducted with several hypochlorite salts. IARC has classified hypochlorite salts as having inadequate evidence for carcinogenicity to humans and animals. IARC therefore considers hypochlorite salts to be not classifiable as to their carcinogenicity to humans.

Mutagenicity:

Calcium hypochlorite has been tested in the Dominant lethal assay in male mice, and it did not induce a dominant lethal response.

Calcium Hypochlorite has been reported to produce mutagenic activity in two vitro assays. It has, however, been shown to lack the capability to produce mutations in animals based on results from the micro nucleus assay. In vitro assays frequently are inappropriate to judge the mutagenic potential of bactericidal chemicals due to a high degree of cellular toxicity. The concentration which produces mutations in these vitro assays is significantly greater than the concentrations used for disinfection. Based on high cellular toxicity in vitro assays and the lack of mutagenicity in animals, the risk of genetic damage to humans is judged not significant.

Aquatic Toxicity:

Bluegill, 96 Hr LC 50: 0.088 mg/l (nominal, static)  
Rainbow trout, 96 Hr LC 50: 0.16 mg/l (nominal static)  
Daphnia magna, 48 Hr LC 50: 0.11 mg/l (nominal, static)

Toxicity to Wildlife:

Bobwhite quail, dietary LC 50: >5,000 ppm  
Mallard ducklings, dietary LC 50: >5,000 ppm  
Bobwhite quail, oral LD 50: 3474 mg/kg.

**X. TRANSPORTATION INFORMATION**

This material is regulated as a dot hazardous material.



Dot description from the hazardous material table 49 CFR 172.101:

Land (U.S Dot): Calcium hypochlorite mixtures dry, 5.1 UN 1748, PG II

**X. TRANSPORTATION INFORMATION Cont..**

Water (IMO): Same as above.

Air (IATA/ICAO): Same as above.

Hazard label/Placard: Oxidizer.

Reportable quantity: 10 lbs. (Per 49 CFR 172.101, Appendix)

Emergency guide No: 45

**XI. SPILL AND LEAKAGE PROCEDURES**

For all transportation accidents call CHEMTREC at 800-424-9300

Reportable quantity: 10 lbs. (as calcium hypochlorite) Per 40 CFR 302.4

**SPILL MITIGATION PROCEDURES.**

Hazardous concentrations in air may be found in local spill area and immediately downwind. Remove all sources of ignition. Stop source of spill as soon as possible and notify appropriate personnel.

Air release. Vapours may be suppressed by the use of a water fog. All water utilised to assist in fume suppression, decontamination or fire suppression may be contaminated and must be contained before disposal and/or treatment.

Water release: This material is heavier than water. This material is soluble in water. Monitor all exit water for available chlorine and pH. Advise local authorities of any contaminated water release.

Land Spill: Contact OCEAN at 1-800-Olin-911 immediately.

Danger: All spills of this product should be treated as contaminated. Contaminated product may initiate a chemical reaction which may spontaneously ignite any combustible material present, resulting in a fire of great intensity. In case of a spill, separate all spilled product from packaging, debris and other material. Using a clean broom or shovel, place all spilled product into plastic bags and place those bags into a clean, dry disposal container, properly marked and labelled. Disposal containers made of plastic or metal recommended. Do not seal disposal containers tightly. Immediately remove all product in disposal containers to an isolated area outdoors. Place all damaged packaging material in a disposal container of water to assure decontamination (ie removal of all product) before disposal. Place all undamaged packaging in a clean, dry container properly marked and labelled. Call OCEAN for disposal procedures.

**Spill residues:**

Dispose of per guideline under Section XII, Waste disposal.

This material may be neutralised for disposal; you are requested to contact OCEAN at 800-OLIN-911 before beginning any such operation.

Personal protection for emergency spill and fire-fighting situations:



Response to this material requires the use of a full encapsulated suit and a NIOSH/MSHA approved positive pressure supplied air respirator.

## **XII. WASTE DISPOSAL**

If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D001.

If this product becomes a hazardous waste, it will be a hazardous waste which is subject to the Land Disposal restrictions under 40 CFR 268 and must be managed accordingly.

As a hazardous solid waste, it must be disposed of in accordance with local, state and federal regulations in permitted hazardous waste treatment storage disposal facility by treatment.

Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulation regarding treatment, storage and disposal for hazardous and non hazardous wastes.

## **XIII. ADDITIONAL REGULATORY STATUS INFORMATION**

Toxic Substances Control Act:

This substance is listed on the Toxic Substances Control Act Inventory.

NSF Limits: NSF maximum Drinking water use concentration - 46 mg/lit as calcium hypochlorite.

Superfund amendments and reauthorization act title III:

Hazard categories, per 40 CFR 370.2:

Health: Immediate (Acute).

Physical: Fire and Reactivity.