

Material Safety Data Sheet
According to 91/155 EEC

Printing date 25.11.2004

Reviewed on 25.11.2004

*** 1 Identification of substance:****Trade name: Fi-CLOR SUPERCAPSULES****Article number:** 11601 Fi-Clor**Application of the substance / the preparation**Water treatment
Water disinfectant**Manufacturer/Supplier:**ARCH CHEMICALS Ltd
Wheldon Road - Castleford - West Yorkshire WF10 2JT - ENGLAND
Telephone: + 44 (0) 1977 714 100
Fax: + 44 (0) 1977 712 456**Information in case of emergency:**CALL A LOCAL NATIONAL POISON CONTROL UNIT
OR ARCH USA CHEMICALS EMERGENCY 24 HOUR TEL No. + 1-423-780-2970
FOR UK CONTACT NCEC Tel 01865 407 333**2 Composition/Data on components:****Chemical characterization****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**CAS: 7778-54-3 calcium hypochlorite
EINECS: 231-908-7

C, O, N; R 8-22-31-34-50 50-100%

Additional information For the wording of the listed risk phrases refer to section 16.**3 Hazard identification****Hazard description:**C Corrosive
O Oxidising
N Dangerous for the environment**Information concerning to particular hazards to man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 8 Contact with combustible material may cause fire.

R 22 Harmful if swallowed.

R 31 Contact with acids liberates toxic gas.

R 34 Causes burns.

R 50 Very toxic to aquatic organisms.

Warning! Do not use together with other products. May release dangerous gases (chlorine).

Classification system

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

4 First aid measures**General information**

Take affected persons out into the fresh air.

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation In case of unconsciousness place patient stably in side position for transportation.**After skin contact**

Rinse with warm water.

Immediately wash with water and soap and rinse thoroughly.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing**

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

(Contd. on page 2)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 25.11.2004

Reviewed on 25.11.2004

Trade name: **Fi-CLOR SUPERCAPSULES**

(Contd. of page 1)

5 Fire fighting measures

Suitable extinguishing agents Water spray**For safety reasons unsuitable extinguishing agents** Extinguishing powder.**Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

Person-related safety precautions:

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Keep contaminated washing water and dispose of appropriately.

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7 Handling and storage

Handling

Information for safe handling: Thorough dedusting.**Information about fire - and explosion protection:** Substance/product is oxidizing when dry.

Storage

Requirements to be met by storerooms and receptacles: Store only in unopened original receptacles.**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from reducing agents.

Do not store together with acids.

Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection gear

Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

Personal protective equipment

General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection: Not required.

Protection of hands:



Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 3)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 25.11.2004

Reviewed on 25.11.2004

Trade name: **Fi-CLOR SUPERCAPSULES**

(Contd. of page 2)

Eye protection:

Tightly sealed goggles.

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form: Tablets
Colour: Whitish
Odour: Chlorine-like

Change in condition

Melting point/Melting range: undetermined
Boiling point/Boiling range: undetermined

Flash point: Not applicable**Flammability (solid, gaseous)** Contact with combustible material may cause fire.**Ignition temperature:****Decomposition temperature:** 175°C**Self-igniting:** Product is not selfigniting.**Danger of explosion:** Product does not present an explosion hazard.**Density at 20°C:** 0.9 g/cm³

Solubility in / Miscibility with Water: Partly soluble

pH-value (10 g/l) at 20°C: 10.5 / 11.5**Solvent content:****Solids content:** 100.0 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.**Dangerous reactions**

Reacts with strong oxidizing agents
 Reacts with alcohols, amines, aqueous acids and alkalis
 Reacts with flammable substances

Dangerous decomposition products: Poisonous gases/vapours

11 Toxicological information

Acute toxicity:**LD/LC50 values relevant for classification:**

7778-54-3 calcium hypochlorite

Oral LD50 850 mg/kg (rat)

Primary irritant effect:**on the skin:** Caustic effect on skin and mucous membranes.**on the eye:** Strong caustic effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

Harmful

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

(Contd. on page 4)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 25.11.2004

Reviewed on 25.11.2004

Trade name: **Fi-CLOR SUPERCAPSULES**

(Contd. of page 3)

12 Ecological information:

Ecotoxicological effects:**Remark:** Very toxic for fish**General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

13 Disposal considerations

Product:**Recommendation**

Must be specially treated adhering to official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.

14 Transport information

Land transport ADR/RID (cross-border)**ADR/RID class:** 5.1 (O2) Oxidizing substances.**Danger code (Kemler):** 50**UN-Number:** 1748**Packaging group:** III**Hazard label** 5.1**Description of goods:** 1748 Calcium hypochlorite mixture, dry**Maritime transport IMDG:****IMDG Class:** 5.1**UN Number:** 1748**Label** 5.1**Packaging group:** II**EMS Number:** F-H,S-Q**Marine pollutant:** No**Proper shipping name:** CALCIUM HYPOCHLORITE MIXTURE, DRY**Air transport ICAO-TI and IATA-DGR:****ICAO/IATA Class:** 5.1**UN/ID Number:** 1748**Label** 5.1**Packaging group:** II**Proper shipping name:** CALCIUM HYPOCHLORITE MIXTURE, DRY

15 Regulations

Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

(Contd. on page 5)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 25.11.2004

Reviewed on 25.11.2004

Trade name: **Fi-CLOR SUPERCAPSULES**

(Contd. of page 4)

Code letter and hazard designation of product:

C Corrosive
O Oxidising
N Dangerous for the environment

Hazard-determining components of labelling:

calcium hypochlorite

Risk phrases:

- 8 Contact with combustible material may cause fire.
- 22 Harmful if swallowed.
- 31 Contact with acids liberates toxic gas.
- 34 Causes burns.
- 50 Very toxic to aquatic organisms.

Safety phrases:

- 1/2 Keep locked up and out of the reach of children.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 29 Do not empty into drains.
- 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Special labelling of certain preparations:

Warning! Do not use together with other products. May release dangerous gases (chlorine).

National regulations**Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.**16 Other information:**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant R-phrases

- 22 Harmful if swallowed.
- 31 Contact with acids liberates toxic gas.
- 34 Causes burns.
- 50 Very toxic to aquatic organisms.
- 8 Contact with combustible material may cause fire.

* **Data compared to the previous version altered.**

Material Safety Data Sheet
According to 91/155 EEC

Printing date 02.05.2006

Reviewed on 02.05.2006

1 Identification of substance:**Trade name: Fi-CLOR SUPERFAST GRANULES****Article number:** 11602 Fi-Clor1**Application of the substance / the preparation**

Water treatment

Water disinfectant

Manufacturer/Supplier:

ARCH CHEMICALS Ltd

Wheldon Road - Castleford - West Yorkshire WF10 2JT - ENGLAND

Telephone: + 44 (0) 1977 714 100

Fax: + 44 (0) 1977 714 006

Information in case of emergency:

ACEAN (Arch Chemicals Emergency Action Network) - Tel. +1 423 780 2970

CALL A LOCAL NATIONAL POISON CONTROL UNIT

FOR UK CONTACT NCEC Tel 01865 407 333

2 Composition/Data on components:**Chemical characterization****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 7778-54-3 calcium hypochlorite

C, O, N; R 8-22-31-34-50 50-100%

EINECS: 231-908-7

Additional information For the wording of the listed risk phrases refer to section 16.**3 Hazard identification****Hazard description:**

C Corrosive

O Oxidising

N Dangerous for the environment

Information concerning to particular hazards to man and environment

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 8 Contact with combustible material may cause fire.

R 22 Harmful if swallowed.

R 31 Contact with acids liberates toxic gas.

R 34 Causes burns.

R 50 Very toxic to aquatic organisms.

Warning! Do not use together with other products. May release dangerous gases (chlorine).

Classification system

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

4 First aid measures**General information**

Take affected persons out into the fresh air.

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation In case of unconsciousness place patient stably in side position for transportation.

(Contd. on page 2)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 02.05.2006

Reviewed on 02.05.2006

Trade name: **Fi-CLOR SUPERFAST GRANULES**

(Contd. of page 1)

After skin contact

Rinse with warm water.

Immediately wash with water and soap and rinse thoroughly.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing**

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

5 Fire fighting measures

Suitable extinguishing agents Water spray**For safety reasons unsuitable extinguishing agents** Extinguishing powder.**Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

Person-related safety precautions:

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Keep contaminated washing water and dispose of appropriately.

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7 Handling and storage

Handling**Information for safe handling:** Thorough dedusting.**Information about fire - and explosion protection:** Substance/product is oxidizing when dry.**Storage****Requirements to be met by storerooms and receptacles:** Store only in unopened original receptacles.**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from reducing agents.

Do not store together with acids.

Further information about storage conditions: Keep receptacle tightly sealed.

8 Exposure controls and personal protection gear

Additional information about design of technical facilities: No further data; see item 7.**Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.**Personal protective equipment****General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection: Not required.

(Contd. on page 3)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 02.05.2006

Reviewed on 02.05.2006

Trade name: **Fi-CLOR SUPERFAST GRANULES**

(Contd. of page 2)

Protection of hands:

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles.

9 Physical and chemical properties:

General Information

Form:	Granulate
Colour:	Whitish
Odour:	Characteristic

Change in condition

Melting point/Melting range: undetermined

Boiling point/Boiling range: undetermined

Flash point: Not applicable

Flammability (solid, gaseous) Contact with combustible material may cause fire.

Ignition temperature:

Decomposition temperature: 175°C

Self-igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Density at 20°C: 0.800 g/cm³

Solubility in / Miscibility with

Water: Partly soluble

pH-value (10 g/l) at 20°C: 10.5 / 11.5

Solvent content:

Organic solvents: 0.0 %

Solids content: 100.0 %

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

(Contd. on page 4)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 02.05.2006

Reviewed on 02.05.2006

Trade name: Fi-CLOR SUPERFAST GRANULES

(Contd. of page 3)

Dangerous reactions

Reacts with strong oxidizing agents

Reacts with alcohols, amines, aqueous acids and alkalis

Reacts with flammable substances

NEVER MIX THIS PRODUCT WITH ORGANIC CHLORINE (TRICHLOR or DICHLOR) WITHIN THE SAME CONTAINER

Dangerous decomposition products: Poisonous gases/vapours**11 Toxicological information****Acute toxicity:****LD/LC50 values relevant for classification:**

Dermal LD50 > 2000 mg/kg (rabbit)

Inhalative LD50 1300 mg/cm³ (rat)**7778-54-3 calcium hypochlorite**

Oral LD50 850 mg/kg (rat)

Primary irritant effect:**on the skin:** Caustic effect on skin and mucous membranes.**on the eye:** Strong caustic effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

Harmful

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information:**Ecotoxicological effects:****Aquatic toxicity:**

Oral LC50 - 48 hrs 0.11 mg/l (daphnia magna)

LC50 - 96 hrs 0.088 mg/l (bluegill sunfish)

0.16 mg/l (rainbow trout)

Remark:

Very toxic for fish

Oral LD/LC50 > 3474 ppm (bobwhite quail)

> 5000 ppm (mallard duck)

General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

13 Disposal considerations**Product:****Recommendation**

Must be specially treated adhering to official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 5)

Material Safety Data Sheet

According to 91/155 EEC

Printing date 02.05.2006

Reviewed on 02.05.2006

Trade name: **Fi-CLOR SUPERFAST GRANULES**

(Contd. of page 4)

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

Land transport ADR/RID (cross-border)

ADR/RID class: 5.1 (O2) Oxidizing substances.
Danger code (Kemler): 50
UN-Number: 2880
Packaging group: II
Hazard label: 5.1
Description of goods: 2880 CALCIUM HYPOCHLORITE, HYDRATED, mixture

Maritime transport IMDG:

IMDG Class: 5.1
UN Number: 2880
Label: 5.1
Packaging group: II
EMS Number: F-H,S-Q
Marine pollutant: No
Proper shipping name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 5.1
UN/ID Number: 2880
Label: 5.1
Packaging group: II
Proper shipping name: CALCIUM HYPOCHLORITE, HYDRATED MIXTURE

15 Regulations

Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

Code letter and hazard designation of product:

C Corrosive
 O Oxidising
 N Dangerous for the environment

Hazard-determining components of labelling:

calcium hypochlorite

(Contd. on page 6)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 02.05.2006

Reviewed on 02.05.2006

Trade name: Fi-CLOR SUPERFAST GRANULES

(Contd. of page 5)

Risk phrases:

- 8 Contact with combustible material may cause fire.
- 22 Harmful if swallowed.
- 31 Contact with acids liberates toxic gas.
- 34 Causes burns.
- 50 Very toxic to aquatic organisms.

Safety phrases:

- 1/2 Keep locked up and out of the reach of children.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 29 Do not empty into drains.
- 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Special labelling of certain preparations:

Warning! Do not use together with other products. May release dangerous gases (chlorine).

National regulations

Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant R-phrases

- 22 Harmful if swallowed.
- 31 Contact with acids liberates toxic gas.
- 34 Causes burns.
- 50 Very toxic to aquatic organisms.
- 8 Contact with combustible material may cause fire.

* **Data compared to the previous version altered.**