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SAFETY DATA SHEET

SUBSTRAFEED SUPER FK

Section 1. Identification

Product name : SUBSTRAFEED SUPER FK
Product type : Liquid
Product code : PZ02CL

Uses

Area of application : Professional applications
Material uses : Fertilizers.

Supplier

Supplier's details : Yara Fertilizers (New Zealand) Limited

Address

Street : 4/211 Heretaunga Street East
Postal code : 4122
City : Hastings
Country : New Zealand

P.O. Box Address

P.O. Box : 8746
Postal code : 4157
City : Hastings
Country : New Zealand

Telephone number : +64 6 877 6600
e-mail address of person : nz.enquiries@yara.com
responsible for this SDS
Emergency telephone number : +64 9929 1483 (7/24)
(with hours of operation)

National advisory body/Poison Center

Name : New Zealand National Poisons Centre
Telephone number : 0800 POISON = 0800 764 766 (NZ only) / +64 3 479 7248
(outside NZ)
Hours of operation : 24h

Section 2. Hazards identification

HSNO Classification : CORROSIVE TO METALS - Category 1
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention : P260 Do not breathe gas or vapour.
P280 Wear protective gloves/clothing and eye/face protection.

Response : P305 IF IN EYES:
P351 Rinse cautiously with water for several minutes.
P338 Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P303 IF ON SKIN (or hair):
P361 Take off immediately all contaminated clothing.
P353 Rinse skin with water.

Storage : P234 Keep only in original packaging.

Other hazards which do not result in classification : None known.

Additional information : None.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
potassium carbonate	>= 10 - < 12.5	584-08-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately. Chemical burns must be treated promptly by a physician.
- Inhalation** : Avoid inhalation of vapor, spray or mist. If inhaled, remove to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Chemical burns must be treated promptly by a physician.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.

Most important symptoms/effects, acute and delayed**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : Vapor may be irritating to eyes and respiratory system.
- Skin contact** : Causes severe burns.
- Ingestion** : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain, watering, redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following: pain or irritation, blistering may occur
- Ingestion** : May cause burns to mouth, throat and stomach.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures**Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None identified.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal** : Avoid breathing dusts, vapors or fumes from burning

decomposition products	materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
Hazchem or Emergency Action Code	: Not available.
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Remark	: Non-explosive.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- 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 and materials for containment and 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. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. 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.

Section 7. Handling and storage

Precautions for safe handling

Not for human or animal consumption.

- Precautions for safe handling** :
- Put on appropriate personal protective equipment (see Section 8). Do not ingest. 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. 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. See also Section 8 for additional information on hygiene measures. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist.
- Protective measures** :
- Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container. Spillages should be cleaned up promptly to avoid damage to surrounding materials.
- Advice on general occupational hygiene** :
- 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. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :
- 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.

Section 8. Exposure controls/personal protection

Control parameters

- Occupational exposure limits** :
- None.
- Appropriate engineering controls** :
- If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other

Environmental exposure controls : engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : A washing facility or water for eye and skin cleaning purposes should be present. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: Tightly-fitting goggles, Europe:, CEN: EN166,

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasized that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : In case of inadequate ventilation wear respiratory protection.
Recommended
full-face mask
inorganic gases/vapors filter (Type B)

Personal protective equipment (Pictograms) :



Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid

Color	: Colorless.,
Odor	: very slight
pH	: 11.7 [Conc. (% w/w): 100 g/l]
Melting point/freezing point	: 0 - 5 °C (32 - 41 °F)
Boiling point, initial boiling point, and boiling range	: > 100 °C (> 212 °F)
Flash point	: Not applicable.
Flammability	: Non-flammable.
Lower and upper explosion limit/flammability limit	: Lower: Not applicable. Upper: Not applicable.
Vapor pressure	: < 23 hPa @ 20 °C (68 °F)
Relative vapor density	: < 1 [Air = 1]
Relative density	: 1.48 @ 20 °C (68 °F)
Miscibility with water	: Miscible in water.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not determined.
Decomposition temperature	: Not applicable.
Viscosity	: Kinematic: Not determined.
Explosive properties	: Non-explosive.
Oxidizing properties	: Non-oxidizer. No oxidizing ingredients present.

Particle characteristics

Median particle size	: Not applicable.
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Section 10. Stability and reactivity

Reactivity	: May be corrosive to metals. Expert judgment
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid contamination by any source including metals, dust and organic materials.
Incompatible materials	: Reactive or incompatible with the following materials:, acids, metals
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Method	Species	Result	Exposure
potassium carbonate	LD50 Oral	Rat	> 2,000 mg/kg	Not applicable.

Conclusion/Summary : No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

- Skin** : Corrosive to the skin.
- Eyes** : Causes serious eye damage.
- Respiratory** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Sensitization

Conclusion/Summary

- Skin** : No data available for this end-point, hence this classification is not considered to be applicable.
- Respiratory** : No data available for this end-point, hence this classification is not considered to be applicable.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
potassium carbonate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

Aspiration hazard

No known significant effects or critical hazards.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Vapor may be irritating to eyes and respiratory system.
Skin contact : Causes severe burns.
Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following: pain or irritation, blistering may occur
Ingestion : May cause burns to mouth, throat and stomach.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.
Effects on or via lactation : No known significant effects or critical hazards.
Other effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following: pain, watering, redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following: pain or irritation, blistering may occur
Ingestion : May cause burns to mouth, throat and stomach.

Numerical measures of toxicity

Acute toxicity estimates
 N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Method	Species	Result	Exposure
potassium carbonate				
	Acute LC50 Fresh water	Fish	68 mg/l	96 h
	Acute EC50	Daphnia	200 mg/l	48 h

Conclusion/Summary : No known significant effects or critical hazards.

Persistence/degradability

Conclusion/Summary : No known significant effects or critical hazards.

Bioaccumulative potential

Conclusion/Summary : No known significant effects or critical hazards.

Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Mobility : Not available.

Other adverse effects : No known significant effects or critical hazards.




Section 13. Disposal considerations

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times 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 emptied 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.

Section 14. Transport information

	UN	IMDG	IATA
UN number	1719	1719	1719

UN proper shipping name	CAUSTIC ALKALI LIQUID, N.O.S. () () (potassium carbonate,)	CAUSTIC ALKALI LIQUID, N.O.S. () () (potassium carbonate,)	CAUSTIC ALKALI LIQUID, N.O.S. () () (potassium carbonate,)
Transport hazard class(es)	8 	8 	8 
Packing group	II	II	II
Environmental hazards	No.	No.	No.

Additional information**IMDG**

: **IMDG Code Segregation group** SG18
Emergency schedules (EmS) F-A, S-B

14.6 Special precautions for user

: Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments

Proper shipping name : FERTILIZERS WITHOUT NITRATES
Remarks : **Solid bulk cargoes**
Harmful to the marine environment with regard to MARPOL Annex V: No
Material is hazardous only in bulk according to the IMSBC: No
IMSBC shipping group: C

Section 15. Regulatory information

HSNO Approval Number : HSR002571.
HSNO Group Standard : Fertilisers (Subsidiary Hazard)
HSNO Classification : CORROSIVE TO METALS - Category 1
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

Country information

: **SCHEDULE 1 (CONDITIONS OF GROUP STANDARD) of the Fertilisers (Subsidiary Hazard) Group Standard 2006.**
Any location at which a substance is manufactured or stored in quantities that exceed those set out in the Standards' Tables 3, 4, 5, 6 and 7 must comply with the corresponding conditions as set out in the Standards' clauses 6, 7 and 8.

Inventory list

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Philippines inventory (PICCS): All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Japan inventory (CSCL): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Australia inventory (AIIIC): All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
United States inventory (TSCA 8b): All components are active or exempted.
EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.
Canada: All components are listed or exempted.
Thailand: All components are listed or exempted.
Viet Nam: All components are listed or exempted.

Section 16. Other information

- Key to abbreviations** :
- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
 - ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
 - ATE = Acute Toxicity Estimate
 - BCF = Bioconcentration Factor
 - bw = Body weight
 - GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 - IATA = International Air Transport Association
 - IBC = Intermediate Bulk Container
 - IMDG = International Maritime Dangerous Goods
 - LogPow = logarithm of the octanol/water partition coefficient
 - MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 - RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 - SUSMP - Standard Uniform Schedule of Medicine and Poisons
 - SGG = Segregation Group
 - UN = United Nations
- Key data sources** :
- EU REACH ECHA/IUCLID5 CSR.
 - National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
 - Sphera Solutions Inc., 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.HSNO Chemical Classification and Information database (CCID), New Zealand Inventory of Chemicals (NZIoC),

History

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- Prepared by** : Product Stewardship and Compliance (PSC).

|| Indicates information that has changed from previously issued version.

Notice to reader

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