

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

- Trade name FLUENCY FP24001

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance/Mixture**

- seed coating

1.3 Details of the supplier of the safety data sheet**Company**

SYENSQO NEW ZEALAND LIMITED
3 Bush Street, 5510 Levin New Zealand
TEL: +64 6368 9372

E-mail address

For questions about SDS content: manager.sds@syensqo.com
For all other topics use: www.syensqo.com/en/form/documentation

1.4 Emergency telephone number

+64 9929 1483 [CareChem 24]
MULTI LINGUAL EMERGENCY NUMBER (24/7)
Europe/Latin America/Africa: +44 1235 239 670 (UK)
Middle East/Africa speaking Arabic: +44 1235 239 671 (UK)
Asia Pacific : +65 3158 1074 (Singapore)
China : 400 120 6011 (toll-free, access from China only)
North America : +1 800 424 9300

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****HSNO Regulation**

- Not classified as a Hazardous chemical under the regulation above.

2.2 Label elements**Hazardous Substances and New Organisms Act 1996 and subsequent amendments**

- Not labelled as a Hazardous chemical under the regulation above.

2.3 Other hazards which do not result in classification

- Exposure to dust generated during the handling or use of the product may cause temporary mechanical irritation to the eyes, skin and respiratory tract.
- Electrostatic charges may build up by swirling, pneumatic transport, pouring, etc.

SECTION 3: Composition/information on ingredients**3.1 Substance**

- Not applicable, this product is a mixture.

3.2 Mixture

Information on Components and Impurities

Chemical name	CAS-No.	GHS Classification	Concentration [%]
Mica (less than 1 % crystalline silica)	12001-26-2	Not classified	>= 60 - < 70
Titanium dioxide	13463-67-7	Not classified	>= 30 - < 40
Non-hazardous ingredients *			Balance

* (Ingredients present at non-hazardous concentrations, according to criteria of the Hazardous Substances (Classification) Regulations 2001 (New Zealand), based on available information).

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

- First aider needs to protect himself.
- Show this safety data sheet to the doctor in attendance.
- Place affected clothing in a sealed bag for subsequent decontamination.
- When symptoms persist or in all cases of doubt seek medical advice.

In case of inhalation

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

In case of skin contact

- Wash off with plenty of water.
- If skin irritation occurs, seek medical advice/attention.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician

In case of ingestion

- Do not induce vomiting without medical advice.
- Rinse mouth with water.
- Do not give anything to drink.
- Keep at rest.
- Consult a physician if necessary.

4.2 Most important symptoms and effects, both acute and delayed

- no data available

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
- Treat symptomatically.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

- Extinguishing media - small fires
- Water spray
- Multi-purpose powders
- Extinguishing media - large fires
- Water spray

Unsuitable extinguishing media

- High pressure inert gas, e.g. carbon dioxide jet.
- (Avoid dispersal of dust in the air)

5.2 Special hazards arising from the substance or mixture**Hazardous combustion products:**

- Carbon monoxide
- Nitrogen oxides (NO_x)

5.3 Advice for firefighters**Special protective equipment for firefighters**

- Wear full protective clothing and self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.

Specific fire fighting methods

- Stay upwind.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information

- Evacuate personnel to safe areas.
- Avoid dust formation.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear suitable gloves.
- Wear suitable protective clothing.
- Respiratory protection
- Wear as appropriate:
 - Face-shield
 - Tightly fitting safety goggles.
- Stop leak if safe to do so.
- For further information refer to section 8 "Exposure controls/personal protection".

6.2 Environmental precautions

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.

6.3 Methods and materials for containment and cleaning up

Prohibition

- Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Methods for containment

- Stop leak if safe to do so.
- Dam up with sand or inert earth (do not use combustible materials).

Decontamination/cleaning

- Shovel or sweep up.
- Keep in suitable, closed containers for disposal.
- Never return spills in original containers for re-use.
- Wash off with plenty of water.

Disposal

- Dispose of in accordance with local regulations.

Additional advice

- No conditions to be specially mentioned.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Handle in accordance with good industrial hygiene and safety practice.
- Wear personal protective equipment.
- Wear suitable protective clothing.
- Avoid inhalation, ingestion and contact with skin and eyes.
- Take measures to prevent the build up of electrostatic charge.
- Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
- Provide for appropriate exhaust ventilation and dust collection at machinery.
- Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
- For personal protection, see section 8.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

7.2 Conditions for safe storage, including any incompatibilities**Technical measures/Storage conditions**

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer.
- Keep away from: Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: Stability-Reactivity).

Packaging material**Suitable material**

- Plastic container of HDPE

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Components with national occupational exposure limits**

Components	Value type	Value	Basis
Mica (less than 1 % crystalline silica)	WES-TWA	3 mg/m3	
	Form of exposure : Respirable dust		
Titanium dioxide	WES-TWA	10 mg/m3	

Components with other occupational exposure limits

Components	Value type	Value	Basis
Mica (less than 1 % crystalline silica)	TWA	0.1 mg/m3	
	Form of exposure : Respirable particulate matter		

8.2 Exposure controls

Control measures

Engineering measures

- Effective exhaust ventilation system.
- Ensure adequate ventilation.
- Extract at emission point.
- Ensure that extracted air cannot be returned to the workplace through the ventilation system.

Individual protection measures

Respiratory protection

- This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
- Respirator must be worn if exposed to dust.
- Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices.
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- Recommended Filter type: Particulates type

Hand protection

- Where there is a risk of contact with hands, use appropriate gloves.
- Gloves must be inspected prior to use.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
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- Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Suitable material

- Nitrile rubber
- Permeation rate: > 480 min
- Glove thickness: > 0.4 mm

Eye protection

- Tightly fitting safety goggles.
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- Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337.1 Personal eye protection - Eye and face protectors for occupational applications.

Skin and body protection

- Wear suitable coveralls to prevent exposure to the skin.
- Footwear protecting against chemicals.
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

Protective measures

- Emergency equipment immediately accessible, with instructions for use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and/or risks that may occur during use.
- The protective equipment must be selected in accordance with current AS/NZS standards and in cooperation with the supplier of the protective equipment.

Environmental exposure controls

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

<u>Physical state</u>	solid
<u>Form</u>	powder
<u>Colour</u>	white
<u>Odour</u>	odourless
<u>Odour Threshold</u>	No data available
<u>Melting point/freezing point</u>	No data available
<u>Initial boiling point and boiling range</u>	No data available
<u>Flammability (solid, gas)</u>	No data available
<u>Flammability (liquids)</u>	No data available
<u>Flammability/Explosive limit</u>	No data available
<u>Flash point</u>	No data available
<u>Auto-ignition temperature</u>	No data available
<u>Decomposition temperature</u>	No data available
<u>pH</u>	No data available
<u>Viscosity</u>	No data available
<u>Solubility</u>	<u>Water solubility:</u> (20 °C)practically insoluble
<u>Partition coefficient: n-octanol/water</u>	No data available
<u>Vapour pressure</u>	No data available
<u>Density</u>	2.90 - 3.40 g/cm ³ (20 °C) <u>Bulk density:</u> 0.28 - 0.32 g/ml loose
<u>Relative density</u>	No data available
<u>Relative vapor density</u>	No data available
<u>Particle characteristics</u>	No data available
<u>Evaporation rate (Butylacetate = 1)</u>	No data available

9.2 Other informationNo data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

- Stable at normal ambient temperature and pressure.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- No hazards to be specially mentioned.

10.4 Conditions to avoid

- Extremes of temperature and direct sunlight.

10.5 Incompatible materials

- no data available

10.6 Hazardous decomposition products

- Carbon monoxide
- Nitrogen oxides (NOx)

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

Not classified as hazardous for acute oral toxicity according to GHS.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute inhalation toxicity

Not classified as hazardous for acute inhalation toxicity according to GHS.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute dermal toxicity

Not classified as hazardous for acute dermal toxicity according to GHS.
According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Acute toxicity (other routes of administration)

Not applicable

Skin corrosion/irritation

Not classified as irritating to skin.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Serious eye damage/eye irritation

Not classified as irritating to eyes

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Respiratory or skin sensitisation

Does not cause skin sensitisation.

According to the available data on the components.
According to the classification criteria for mixtures.
Unpublished reports and/or published data.

Mutagenicity**Genotoxicity in vitro**

Product is not considered to be genotoxic.

	According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Genotoxicity in vivo	Product is not considered to be genotoxic. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
<u>Carcinogenicity</u>	The product is not considered to be carcinogenic. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
<u>Toxicity for reproduction and development</u>	
Toxicity to reproduction/Fertility	The product is not considered to affect fertility. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
Developmental Toxicity/Teratogenicity	The product is not considered to be toxic for development. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
<u>STOT</u>	
STOT - single exposure	The substance or mixture is not classified as specific target organ toxicant, single exposure. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
STOT - repeated exposure	The substance or mixture is not classified as specific target organ toxicant, repeated exposure. According to the available data on the components. According to the classification criteria for mixtures. Unpublished reports and/or published data.
<u>Experience with human exposure</u>	The product itself has not been tested.
<u>CMR effects</u>	No data available
Carcinogenicity titanium dioxide	Not classified as a carcinogen according to GHS criteria: the mechanism or mode of action of tumour formation is considered not relevant for humans. Considered carcinogenic to animals in certain countries. The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter $\leq 10 \mu\text{m}$.
<u>Aspiration toxicity</u> <u>Aspiration toxicity</u>	Not classified for aspiration toxicity according to GHS criteria. According to the available data on the components, According to the classification criteria for mixtures., Internal evaluation.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic Compartment**

Acute toxicity to fish	The product itself has not been tested. Global ecotoxicity assessment available below.
Acute toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested. Global ecotoxicity assessment available below.
Toxicity to aquatic plants	The product itself has not been tested. Global ecotoxicity assessment available below.
Toxicity to microorganisms	The product itself has not been tested.
Chronic toxicity to fish	The product itself has not been tested. Global ecotoxicity assessment available below.
Chronic toxicity to daphnia and other aquatic invertebrates	The product itself has not been tested. Global ecotoxicity assessment available below.

Sediment compartment

Toxicity to benthic organisms	The product itself has not been tested.
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Terrestrial Compartment

Toxicity to soil dwelling organisms	The product itself has not been tested.
Toxicity to terrestrial plants	The product itself has not been tested.
Toxicity to above ground organisms	The product itself has not been tested.

12.2 Persistence and degradability**Abiotic degradation**

Stability in water	Conclusion is not possible for a mixture as a whole.
Photodegradation	Conclusion is not possible for a mixture as a whole.

Physical- and photo-chemical elimination

Physico-chemical removability	Conclusion is not possible for a mixture as a whole.
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Biodegradation

Biodegradability	As (bio)degradability is not relevant for mixtures, all the components of the mixture were assessed individually (rapid degradability assessment available below).
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12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water	No data available
Bioconcentration factor (BCF)	As bioaccumulation is not relevant for mixtures, all the components of the mixture were assessed individually. None of the components are considered to be potentially bioaccumulable. Unpublished reports Published data

12.4 Mobility in soil

Adsorption potential (Koc)	Conclusion is not possible for a mixture as a whole.
Known distribution to environmental compartments	No data available

12.5 Results of PBT and vPvB assessment Not applicable, mixture of inorganic substances

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard According to the available data on the components
No acute environmental hazard identified.

According to the classification criteria for mixtures.
Unpublished reports
Published data

Long-term (chronic) aquatic hazard According to the available data on the components
No chronic environmental hazard identified.

According to the classification criteria for mixtures.
Unpublished reports
Published data

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Dispose of in accordance with local regulations.

Prohibition

- Do not discharge directly into the environment.

Advice on cleaning and disposal of packaging

- Empty remaining contents.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Containers that cannot be cleaned must be treated as waste.
- Dispose of contents/ container to an approved waste disposal plant.
- Dispose of in accordance with local regulations.
- Where possible recycling is preferred to disposal or incineration.
- Recycle following cleaning.

Prohibition

- Do not dispose of with domestic refuse.

SECTION 14: Transport information

Land transport – NZS:5433 (New Zealand)

not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****HSNO Regulation**

HSNO Group: None

Approved handler requirement (New Zealand): Not applicable

HSNO Approval Code: Not regulated under HSNO Act

Tolerable Exposure Limits (TEL)

Not applicable

Environmental Exposure Limits (EEL)

Not applicable

Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Syensqo legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of

	Korea, please contact your local representative for additional information.
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SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet**

- TWA: 8-hour, time-weighted average
- WES-TWA: Workplace Exposure Standard - Time Weighted average
- ca.: approximately
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. The information exclusively relates to the designated product in its unaltered state. Safety and health hazards may change if such product is used in combination with other materials or in any other manufacturing process. Users are responsible for compliance with all regulations linked to product related activities, and to use the products in accordance with technical instructions given by Syensqo, if any.