

SAFETY DATA SHEET

Single Superphosphate Granular 0-20-0

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : Single Superphosphate Granular 0-20-0
EC number : 232-379-5
REACH Registration number

Registration number	Substance
01-2119488967-11-XXXX	Single Superphosphate

CAS number : 8011-76-5
Product code : 3223-28743
Product description : EC FERTILISER Straight Fertiliser Single Superphosphate, Granulated 0-20-0
Product type : Solid.
Other means of identification : Superphosphate; Superphosphate, normal; Normal superphosphate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Uses by workers in industrial settings: 1: Sampling, loading, filling, transfer, dumping, and bagging of substance at dedicated / non-dedicated facilities. 2: Storage 3: Transfer of substance into small containers (dedicated filling line, including weighing). Uses by professional workers: 4: Professional use – solid fertiliser for fields 5: Professional use – outdoor mixing of fertiliser formulations 6: Professional use – indoor mixing of fertiliser formulations	
Uses advised against	Reason
None.	Evaluation

1.3 Details of the supplier of the safety data sheet

 Nutrien Europe SA
Avenue Louise 326/36
1050 Bruxelles
Belgium
Tel : +32 (0)2 646 70 00
Fax : +32 (0)2 646 68 60
commercial@nutrien.eu

e-mail address of person responsible for this SDS : productsafety@nutrien.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Nutrien Safety Data Sheets are available in many languages at <https://agproducts.nutrien.com/products/>
Physicians, Poison Centres, or the Public may contact Nutrien's Global Emergency Response Number 24/7/365 for service in many languages at +1 303 389 1654

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SECTION 1: Identification of the substance/mixture and of the company/ undertaking

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DENMARK +45 82 12 12 12
ESTONIA 16662; +372 62 69 379
FINLAND +358 9 471977
FRANCE
Angers +33 (0)2 41 48 21 21
Bordeaux +33 (0)5 56 96 40 80
Lille 0800 59 59 59 (national callers)
Lyon +33 (0)4 72 11 69 11
Marseille +33 (0)4 91 75 25 25
Nancy +33 (0)3 83 22 50 50
Paris +33 (0)1 40 05 48 48
Rennes +33 (0)2 99 59 22 22
Strasbourg +33 (0)3 88 37 37 37
Toulouse +33 (0)5 61 77 74 47
GEORGIA +995 99 53 33 20
GERMANY
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Bonn +49 228 192 40
Erfurt +49 361 730 730
Freiburg +49 761 192 40
Goettingen +49 551 192 40
Homburg (Saar) +49 6841 192 40
Mainz +49 6131 192 40
Munich +49 89 192 40
GREECE +30 21 07 79 37 77
HUNGARY +36 80 20 11 99
ICELAND +354 543 22 22
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Milan +39 02 6610 1029
Padova +39 49 827 50 78
Pavia +39 38 224 444
Rome +39 06 305 43 43
Turin +39 011 663 7637
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Lodz +48 42 63 14 724
Sosnowiec +48 32 266 11 45
Warszawa +48 22 619 66 54
Wroclaw +48 71 343 30 08
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Birmingham 844 892 0111
Edinburgh 844 892 0111
Newcastle Upon Tyne +44 191 2606182; +44 191 2606180
Penarth 844 892 0111

Supplier

Telephone number : Nutrien Europe SA
EMERGENCY TELEPHONE NUMBERS:
Transportation: 00-1-303-389-1654
Medical: 00-1-303-389-1654

Hours of operation : 24/7/365

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Multi-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Eye Dam. 1, H318
Skin Irrit. 2, H315

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes serious eye damage.
Causes skin irritation.

Precautionary statements

Prevention : P264 Wash hands thoroughly after handling.
P280.6 Wear eye or face protection.

Response : P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or physician.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P332+313 If skin irritation occurs: Get medical attention.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : Superphosphates

Supplemental label elements : Not applicable.

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SECTION 2: Hazards identification

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable. Inorganic salt.
P: Not available. B: Not available. T: Not available.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not applicable. Inorganic salt.
vP: Not available. vB: Not available.

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

SECTION 3: Composition/information on ingredients

3.1 Substances : Multi-constituent substance

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Superphosphates. Substance obtained by treating phosphate rock with sulphuric acid or a mixture of sulphuric and phosphoric acids. Composed primarily of calcium phosphates and calcium sulphate.	REACH #: 01-2119488967-11-XXXX EC: 232-379-5 CAS: 8011-76-5	100	Eye Dam. 1, H318	[*]
consisting of:				
Calcium sulphate	REACH #: 05-2115385782-35-XXXX EC: 231-900-3 CAS: 7778-18-9	51 - 54	Not classified.	[A]
Calcium bis (dihydrogenorthophosphate)	EC: 231-837-1 CAS: 7758-23-8	30 - 34	Eye Dam. 1, H318	[A]
Orthophosphoric acid	EC: 231-633-2 CAS: 7664-38-2	4	Skin Corr. 1B, H314 Eye Dam. 1, H318	[B]
Tricalcium bis(orthophosphate)	EC: 231-840-8 CAS: 7758-87-4	3	Not classified.	[A]
Calcium hydrogenorthophosphate	REACH #: 01-2119490064-41-XXXX EC: 231-826-1 CAS: 7757-93-9	1 - 3	Not classified.	[A]
Fluorapatite (Ca ₅ F(PO ₄) ₃)	EC: 215-144-1 CAS: 1306-05-4	0.1 - 5	Not classified.	[B]
			See Section 16 for the full text of the H statements declared above.	

SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[*] Substance

[A] Constituent

[B] Impurity

[C] Stabilising additive

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : CORROSIVE. Begin eye irrigation immediately. All eye exposures require medical evaluation following decontamination. Immediately rinse eyes with large quantities of water or saline for a minimum 30 minutes, longer irrigation time is preferred if possible, due to the chemical reaction that occurs - see Notes to Physician below. If possible, remove contact lenses being careful not to cause additional eye damage. If the initial water supply is insufficient, keep the affected area wet with a moist cloth and transfer the person to the nearest place where rinsing can be continued for the recommended length of time. Call an ambulance for transportation to hospital. Continue eye irrigation during transport. For additional advice call the medical emergency number on this safety data sheet or your poison center or physician.
- Inhalation** : CORROSIVE. If dusts, mists or vapors are present in unknown or excessive concentrations, rescuers must wear appropriate respiratory protection and a suit resistant to acids. REMOVE PERSON TO FRESH AIR. Watch closely for signs of wheezing and breathing difficulties. Maintain an open airway. If not breathing, begin CPR. Oxygen may be administered by trained personnel. Affected persons who have stopped breathing or are having difficulty breathing or are unconscious need immediate medical attention. Call an ambulance for transport to hospital. For additional advice call the medical emergency number on this SDS or your poison center or doctor.
- Skin contact** : Immediately flush the affected areas with water while removing contaminated clothing. Affected areas should be flushed for a minimum of 20 minutes to improve the patient outcome. The water should be maintained at a comfortable temperature for soaking. This may require transfer of the patient to other showering or bathing facilities where the affected areas can be soaked for the full 20 minutes after initial flushing. If patient condition necessitates immediate transfer to medical facilities, continue to flush affected areas, if possible, while transporting to medical care.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. For additional advice call the medical emergency number on this SDS or your poison center or physician.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

SECTION 4: First aid measures

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
- Ingestion** : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. For professional, multilingual, medical support, in case of medical emergencies involving Nutrien products, telephone the Nutrien global 24 hour Emergency Number: 00-1-303-389-1654.
- Specific treatments** : Outcomes can be improved by minimizing time to decontamination and extending decontamination times to reduce tissue damage. Expert opinion indicates extended decontamination is required to remove corrosive chemicals. Skin and eye decontamination should be performed for a minimum of 20 - 30 minutes. Extended decontamination times may be required depending on the exposure. To avoid hypothermia, irrigation water should be maintained at a comfortable temperature. If the patient is not in extremis, it may be necessary to delay transport to emergency care facilities to ensure adequate decontamination time. However, early patient transport may be necessary depending on patient's condition or the availability of water. If possible, continue skin and/or eye irrigation during emergency medical transport. Double-bag contaminated clothing and personal belongings of the patient.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Non-flammable. Material will not burn. Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire, hazardous decomposition products may be produced.
- Hazardous combustion products** : Decomposition products may include the following materials:
sulfur oxides
phosphorus oxides

5.3 Advice for firefighters

- 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
- Additional information** : Contain and collect the water used to fight the fire for later treatment and disposal.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Avoid dust generation. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Avoid creating dusty conditions and prevent wind dispersal. Do not dry sweep. Use appropriate tools to transfer the spilt solid to a convenient waste disposal container. Dispose of via a licensed waste disposal contractor.
or
Recycle to process, if possible.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe dust. 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. Empty containers retain product residue and can be hazardous.

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse. Use caution when opening truck or railcar doors as product may have shifted during transport.

Must be stored in a dry location. Absorbs moisture on long-term storage under high humidity conditions. Store away from incompatible materials (see Section 10). When product is stored in sealable containers, keep container tightly closed and sealed until ready for use. Sealable containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

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SECTION 7: Handling and storage

7.3 Specific end use(s)

- Recommendations** : Fertiliser.
- Industrial sector specific solutions** : Manufacture of speciality fertilisers.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Orthophosphoric acid	EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values TWA: 1 mg/m ³ 8 hours. STEL: 2 mg/m ³ 15 minutes.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Superphosphate	DNEL	Long term Dermal	17.4 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3.1 mg/m ³	Workers	Systemic

- DNEL/DMEL Summary** : Very low toxicity to humans or animals.

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Superphosphate	Fresh water	1.7 mg/l	Assessment Factors
	Marine	0.17 mg/l	Assessment Factors

8.2 Exposure controls

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

- Hygiene measures** : 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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 8: Exposure controls/personal protection

- 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: sealed eyewear. If inhalation hazards exist, a full-face respirator may be required instead.
- 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. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Contact your personal protective equipment manufacturer to verify the compatibility of the equipment for the intended purpose.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Contact your personal protective equipment manufacturer to verify the compatibility of the equipment for the intended purpose.
- Environmental exposure controls** : 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Solid. [Amorphous solid powder or lumps.]
- Colour** : Grey.
- Odour** : Not available.
- Odour threshold** : Not available.
- pH** : 2 [Conc. (% w/w): 10%]
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not applicable.
- Flash point** : Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Non-combustible.
- Upper/lower flammability or explosive limits** : Not applicable.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : 1.1
- Solubility(ies)** : Very slightly soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : 100°C
- Viscosity** : Not applicable.
- Explosive properties** : No specific fire or explosion hazard.

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SECTION 9: Physical and chemical properties

Oxidising properties : None.

9.2 Other information

Solubility in water : Partially soluble in the following materials: cold water, hot water

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : Not considered to be reactive.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : May be incompatible with some materials of construction. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.
Incompatible with:
strong alkalis

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Superphosphate	LC50 Inhalation Vapour	Rat - Male, Female	>5 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-
Calcium bis (dihydrogenorthophosphate)	LD50 Oral	Rat - Female	3986 mg/kg	-
	LD50 Dermal	Rabbit	>2 g/kg	-
Orthophosphoric acid	LD50 Oral	Rat	3986 mg/kg	-
	LD50 Oral	Rat	1.25 g/kg	-

Conclusion/Summary : Not considered to be toxic to humans. Effects are not sufficient for classification as hazardous.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Superphosphate	Skin - Mild irritant	Rabbit	-	-	-
	Eyes - Oedema of the conjunctivae	Rabbit	3	-	72 hours

Conclusion/Summary

Skin : May cause skin irritation.

Eyes : Causes severe eye irritation.

Respiratory : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Sensitisation

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SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result
Superphosphate	Skin	Mouse	Not sensitizing

Conclusion/Summary

- Skin** : Non-sensitiser to skin.
Respiratory : No known significant effects or critical hazards.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Superphosphate	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: <i>In vitro</i> Subject: Mammalian-Animal	Negative
	OECD 473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	Experiment: <i>In vitro</i> Subject: Mammalian-Human Cell: Somatic	Negative
	OECD 471 Bacterial Reverse Mutation Test	Experiment: <i>In vivo</i> Subject: Bacteria	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Superphosphate	Negative	Negative	Negative	Rat - Male, Female	Oral: 750 mg/kg	7 days per week

Conclusion/Summary : Not considered to be toxic to the reproductive system.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Skin contact
Inhalation

Potential acute health effects

- Eye contact** : Causes serious eye damage.
Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact : Causes skin irritation.
Ingestion : May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
 pain
 watering
 redness

SECTION 11: Toxicological information

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : See above.
- Potential delayed effects** : See above.

Long term exposure

- Potential immediate effects** : See above.
- Potential delayed effects** : See below.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Superphosphate	Sub-chronic NOAEL Oral	Rat - Male, Female	250 mg/kg	-

- Conclusion/Summary** : No known significant effects or critical hazards.
- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Superphosphate	Acute EC50 >87.6 mg/l Fresh water	Algae	72 hours
	Acute LC50 1790 mg/l Fresh water	Daphnia	72 hours
	Acute LC50 >85.9 mg/l Fresh water	Fish	96 hours

Conclusion/Summary : Based on available data, the classification criteria are not met. May be harmful to the environment if released in large quantities. Excessive nutrient runoff to a body of water may result in eutrophication.

12.2 Persistence and degradability

Conclusion/Summary : According to EC criteria: Expected to be readily biodegradable

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

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SECTION 12: Ecological information

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable. Inorganic salt.
P: Not available. B: Not available. T: Not available.

vPvB : Not applicable. Inorganic salt.
vP: Not available. vB: Not available.

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

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

European waste catalogue (EWC)

Waste code	Waste designation
06 09 00	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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 spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	ICAO
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

Single Superphosphate Granular 0-20-0

SECTION 14: Transport information

Additional information	-	-	-	-
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14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso III Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : All components are listed or exempted.

Canada : At least one component is not listed in DSL but all such components are listed in NDSL.

Single Superphosphate Granular 0-20-0

SECTION 15: Regulatory information

China	: All components are listed or exempted.
Japan	: Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : Not determined.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: All components are listed or exempted.
United States	: All components are listed or exempted.

15.2 Chemical safety assessment : Complete.

SECTION 16: Other information

Revision comments : A new product.

🔍 Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Key literature references and sources for data : REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.
ECHA, European Chemicals Agency, Classification and Labelling Database
DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 4 JULY 2012 on the control of major-accident hazards involving dangerous substances
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.
Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, with successive amendments.
REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.
American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.
Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers
ERG 2016 Emergency Response Guidebook
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.
The Fertilizer Institute, Toxicity Testing Results, March 2003

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Eye Dam. 1, H318 Skin Irrit. 2, H315	Weight of evidence Calculation method

Full text of abbreviated H statements

Single Superphosphate Granular 0-20-0

SECTION 16: Other information

H318	Causes serious eye damage.
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[Full text of classifications \[CLP/GHS\]](#)

Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
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Version : 1.1

[Notice to reader](#)

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Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition : Multi-constituent substance
Code : 3223-28743
Product name : Single Superphosphate Granular 0-20-0

Section 1 - Title

Short title of the exposure scenario : Nutrien SSP ES for Workers

List of use descriptors : **Identified use name:** Industrial use for the formulation of preparations, intermediate use, and end use in industrial settings.
Process Category: PROC05, PROC08a, PROC08b, PROC09, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU03, SU10
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC06a, ERC08a, ERC08d
Market sector by type of chemical product: PC12
Article category related to subsequent service life: Not applicable.

Environmental contributing scenarios : **An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.**

Health Contributing scenarios : **Bulk transfers** - PROC05, PROC08a, PROC08b, PROC09, PROC26
Clean-down and maintenance of equipment - PROC05, PROC08a, PROC08b, PROC09, PROC26
Mixing operations (open systems) - PROC05, PROC08b
Product packaging - PROC09
Storage - PROC26

Number of the ES	: 1
Processes and activities covered by the exposure scenario	: Applicable to all identified Process Categories.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

Contributing scenario controlling worker exposure for 2: Bulk transfers
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Product characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Variable, from day to day.
Frequency and duration of use/exposure	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.

Other conditions affecting workers exposure	: Indoor or outdoor use Amounts used
Area of use:	: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Ensure good industrial hygiene. Provide eye shower and mark its location conspicuously.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Respiratory protection	: If ventilation is inadequate, use respirator that will protect against dust/mist.
Contributing scenario controlling worker exposure for 3: Clean-down and maintenance of equipment	
Product characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Not applicable.
Frequency and duration of use/exposure	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other conditions affecting workers exposure	: Indoor or outdoor use
Area of use:	: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release	: Restrict access while emptying or maintaining the unit. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Since the emptied containers retain product residue, follow product insert warnings even after container is emptied.
Process control/change measures	: These controls may include segregation of areas, access only to authorised persons, permit to work systems, confined space working procedures, and hazard awareness training.
Technical conditions and measures to control dispersion from source towards the worker	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Pay attention to good general hygiene and housekeeping. Provide eye shower and mark its location conspicuously. When using do not eat or drink.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Respiratory protection	: If ventilation is inadequate, use respirator that will protect against dust/mist.

Contributing scenario controlling worker exposure for 4: Mixing operations (open systems)

Product characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Not applicable.
Frequency and duration of use/exposure	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other conditions affecting workers exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Personal protection	: Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust.

Contributing scenario controlling worker exposure for 5: Product packaging

Product characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Not applicable.
Frequency and duration of use/exposure	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other conditions affecting workers exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Ensure the area is organised, well lit and ventilated with enough space to deal with spills easily.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Ensure sufficient ventilation when re-packing damaged packages. Only use product in a well-ventilated area.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. When using do not eat or drink.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.

Contributing scenario controlling worker exposure for 6: Storage

Product characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Not applicable.
Frequency and duration of use/exposure	: Use duration (h/d): >4
Human factors not influenced by risk management	: Not applicable.
Other conditions affecting workers exposure	: Indoor use
Area of use:	: Indoor

Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.

Section 3 - Exposure estimation and reference to its source

Website:	: Qualitative approach used to conclude safe use.
Exposure estimation and reference to its source - Environment: 1: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.	
Exposure assessment (environment):	: Qualitative approach used to conclude safe use.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Not available.
Exposure estimation and reference to its source - Workers: 2: Bulk transfers	
Exposure assessment (human):	: Qualitative approach used to conclude safe use.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
Exposure estimation and reference to its source - Workers: 3: Clean-down and maintenance of equipment	
Exposure assessment (human):	: Qualitative approach used to conclude safe use.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.
Exposure estimation and reference to its source - Workers: 4: Mixing operations (open systems)	
Exposure assessment (human):	: Qualitative approach used to conclude safe use.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers: 5: Product packaging

Exposure assessment (human): : Qualitative approach used to conclude safe use.

EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Exposure estimation and reference to its source - Workers: 6: Storage

Exposure assessment (human): : Qualitative approach used to conclude safe use.

EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

Environment : No additional risk management measures required.

Health : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Additional good practice advice beyond the REACH CSA

Environment : Use containment as appropriate. Good hygiene practices and housekeeping measures

Health : Not available.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition : Multi-constituent substance
Code : 3223-28743
Product name : Single Superphosphate Granular 0-20-0

Section 1 - Title

Short title of the exposure scenario : Nutrien SSP ES for Professionals
List of use descriptors : **Identified use name:** Professional use in formulation of preparations and end-use.
Process Category: PROC03, PROC08a, PROC08b, PROC09, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU03, SU10, SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC08b, ERC08e
Market sector by type of chemical product: PC11, PC12, PC19, PC21, PC37
Environmental contributing scenarios : **An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.**
Health Contributing scenarios : **All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.**

Number of the ES	: 2
Processes and activities covered by the exposure scenario	: Applicable to all identified Process Categories.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

Not applicable.

Contributing scenario controlling worker exposure for 2: All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.
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All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.

Product characteristics	: Solid, low dustiness.
Concentration of substance in mixture or article	: Covers percentage substance in the product up to 100%
Physical state	: Solid beads.
Dust	: Solid, low dustiness.
Amounts used	: Variable.
Frequency and duration of use/exposure	: >4 Hours per shift
Human factors not influenced by risk management	: Not applicable.
Other conditions affecting workers exposure	: Indoor or outdoor use
Area of use:	: Indoor and outdoor use.

Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use containment as appropriate. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Engineering controls	: Provide adequate ventilation.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Product substance-related measures	: Avoid contact with eyes.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: Avoid contact with eyes. Ensure good industrial hygiene. If operating conditions cause high dust concentrations to be produced, use dust goggles.
Personal protection	: Use suitable eye protection. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Section 3 - Exposure estimation and reference to its source

Website:	: Qualitative approach used to conclude safe use.
Exposure estimation and reference to its source - Environment: 1: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.	
Exposure assessment (environment):	: Not applicable.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Not available.
Exposure estimation and reference to its source - Workers: 2: All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.	
Exposure assessment (human):	: Qualitative approach used to conclude safe use.
EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE	: Not available.

Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

Environment	: Not applicable.
Health	: No additional risk management measures required.

Additional good practice advice beyond the REACH CSA

Environment	: Not available.
Health	: Use containment as appropriate. Ensure control measures are regularly inspected and maintained. Pay attention to good general hygiene and housekeeping.