Agrium Europe

SAFETY DATA SHEET

Triple Superphosphate, Granular, 0-46-0

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

1.1 Product identifier

Product name : Triple Superphosphate, Granular, 0-46-0

REACH Registration number

Registration number	Substance Identification
01-2119493057-33-XXXX	Triple Superphosphate

Product code : 3216-27992

Product description : EC FERTILISER Triple Superphosphate Granular, 0-46-0

Product type : Solid.

Other means of identification : Triple Superphosphate; Superphosphates, concentrated

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

Identified uses
Professional use in formulation of preparations and end-use. Industrial use for the formulation of preparations, intermediate use, and end use in industrial settings. Fertiliser.

Uses advised against	Reason
None.	Chemical Safety Report

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Agrium Safety Data Sheets are available in many languages at http://www.agrium.com/products/ae
Physicians, Poison Centres, or the Public may contact Agrium's Global Emergency Response Number 24/7/365 for service in many languages at +1 303 389 1654

AUSTRIA +43 1 406 43 43
AZERBAIJAN +994 125 979 924
BELARUS +375 17 287 00 92
BELGIUM +32 70 245 245
BULGARIA +359 2 9154 378; +359 887 435 325
CROATIA +358 1 2348 342
CZECH REPUBLIC +420 22 49 195 93
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

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

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
Berlin +49 30 192 40
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
IRELAND +353 1 837 9964 (medical professionals) +353 1 809 2166 (public)
ISRAEL +972 4 854 19 00
ITALY
Bergamo +39 800 883 300
Firenze +39 55 794 7819
Foggia +39 881 732 326
Genoa +39 10 563 62 45
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
KAZAKHSTAN +7 3272 925 868
LITHUANIA +370 5 236 20 52; +370 687 533 78
NETHERLANDS +31 30 274 88 88
NORWAY +47 22 59 13 00
POLAND
Gdansk +48 58 682 04 04
Krakow +48 12 411 99 99
Lòdz +48 42 63 14 724
Sosnowiec +48 32 266 11 45
Warszawa +48 22 619 66 54
Wroclaw +48 71 343 30 08
PORTUGAL 808 250 143 (national callers)
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RUSSIAN FEDERATION
Ekaterinburg +7 343 229 98 57
Moscow +7 495 628 1687
Saint-Petersburg +7 921 757 3228
SERBIA +381 11 3608 440
SLOVAKIA +421 2 5477 4166
SLOVENIA +386 41 635 500
SPAIN +34 91 562 0420
SWEDEN 112 (national callers); +46 (0)10 456 6700
SWITZERLAND +41 44 251 51 51 (in Switzerland dial 145)
THE FORMER YUGOSLAVIA +38 923 147 635
TURKEY +90 0312 433 70 01 or 0 800 314 7900
UNITED KINGDOM
Belfast 844 892 0111
Birmingham 844 892 0111
Edinburgh 844 892 0111
Newcastle Upon Tyne +44 191 2606182; +44 191 2606180

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

Penarth 844 892 0111

Supplier

Telephone number : Agrium 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

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

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Causes serious eye damage.

Precautionary statements

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

Response : IF IN EYES: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or physician.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : Superphosphates, concentrated

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.

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

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	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Europe				
Calcium bis (dihydrogenorthophosphate)	REACH Reg.#: 01-2119490065-39-XXXX EC No. 231-837-1 CAS: 7758-23-8	73 - 95	Eye Dam. 1, H318	[A]
Fluorapatite (Ca5F(PO4)3)	REACH Reg.#: Exempt. Naturally occurring substance, not chemically modified. EC No. 215-144-1 CAS: 1306-05-4	2 - 5	Not classified.	[B]
Calcium sulphate, dihydrate	REACH Reg.#: 01-2119444918-26-XXXX EC No. 231-900-3 CAS: 10101-41-4	2 - 5	Not classified.	[A]
Orthophosphoric acid	REACH Reg.#: 01-2119485924-24-XXXX EC No. 231-633-2 CAS: 7664-38-2	1 - 5	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 **See Section 16 for the full text of the H statements declared above.**	[B]

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 to phosphoric acid require medical evaluation following decontamination. Immediately rinse eyes with large quantities of water or saline for a minimum of 20-30 minutes depending on severity of exposure. 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.

SECTION 4: First aid measures

Skin contact : CORROSIVE. Causes severe burns. Immediately begin rinsing the affected areas with water. Remove contaminated clothing and shoes. Affected areas should be rinsed for a minimum of 20 - 30 minutes or longer depending on severity of exposure. Luke-warm water is recommended for continued irrigation to prevent hypothermia. Conscious persons without breathing difficulties may benefit from prolonged irrigation in a fixed shower or bathing facility prior to hospital transport. Call an ambulance for transport to hospital. Continue skin irrigation during transport. For additional advice call the medical emergency number on this safety data sheet or your poison center or physician.

Ingestion : CORROSIVE. May cause severe burns to the mouth, throat, and stomach. If the affected person requires cardiopulmonary resuscitation, avoid mouth to mouth contact. Do not induce vomiting. If vomiting occurs, attempt to keep head lower than the chest so that vomit does not enter the lungs. Wash face and mouth with water to remove visible material. If the exposed person is conscious and can swallow, give 1-2 sips of water. Do not give anything else by mouth. Loosen tight clothing such as collar, tie, belt or waistband to prevent any breathing restrictions. For signs of breathing difficulties, refer to the INHALATION section. Call an ambulance for transportation to hospital. For additional advice, call the medical emergency number on this safety data sheet or your poison center or doctor.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. Depending on the situation, the rescuer should wear an appropriate mask, gloves, protective clothing and a respirator or self-contained breathing apparatus. 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

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May cause respiratory irritation.

Skin contact : May cause skin dryness and irritation.

Ingestion : May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

Over-exposure signs/symptoms

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

Inhalation : No specific data. May cause respiratory irritation. Adverse symptoms may include the following:
coughing
wheezing and breathing difficulties

Skin contact : Adverse symptoms may include the following:
redness
dryness

Ingestion : Adverse symptoms may include the following:
stomach pains
nausea or vomiting
diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : For professional, multilingual, medical support, in case of medical emergencies involving Agrium products, telephone the Agrium global 24 hour Emergency Number: 00-1-303-389-1654

Specific treatments : No specific treatment. Treat symptomatically.

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 : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
sulfur oxides
phosphorus oxides
metal oxide/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 : No specific fire or explosion hazard. 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. 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 environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle to process, if possible.
or
Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : No additional information.

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

If applicable: 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 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. Do not reuse container.

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. 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. Store locked up. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. May be corrosive to metals. Contact your sales representative or a metallurgical specialist to ensure compatability with your equipment. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product.

7.3 Specific end use(s)

Recommendations : Fertiliser. Fertiliser Blend Component

Industrial sector specific solutions : See Annex to the Safety data sheet for additional information in the Exposure Scenario (s).

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
Europe	
Orthophosphoric acid	**EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Austria	
Orthophosphoric acid	**GKV_MAK (Austria, 12/2011).** TWA: 1 mg/m³ 8 hours. PEAK: 2 mg/m³, 4 times per shift, 15 minutes.
Belgium	
Calcium sulphate, dihydrate	**Lijst Grenswaarden / Valeurs Limites (Belgium, 4/2014).** TWA: 10 mg/m³ 8 hours.
Orthophosphoric acid	**Lijst Grenswaarden / Valeurs Limites (Belgium, 4/2014).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Bulgaria	
Orthophosphoric acid	**България Министерство на труда и социалната политика и Министерството на здравеопазването (Bulgaria, 1/2012).** Limit value 15 min: 2 mg/m³ 15 minutes. Limit value 8 hours: 1 mg/m³ 8 hours.
Croatia	

SECTION 8: Exposure controls/personal protection

	MinGoRP GVI/KGVI (Croatia, 6/2013). ELV: 4 mg/m³ 8 hours. Form: respirable dust ELV: 10 mg/m³ 8 hours. Form: total dust
Orthophosphoric acid	**MinGoRP GVI/KGVI (Croatia, 6/2013).** STELV: 2 mg/m³ 15 minutes. ELV: 1 mg/m³ 8 hours.
Czech Republic	
Orthophosphoric acid	**MZCR PEL/NPK-P (Czech Republic, 1/2013).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Denmark	
Orthophosphoric acid	**Arbejdstilsynet (Denmark, 10/2012).** TWA: 1 mg/m³ 8 hours.
Estonia	
Orthophosphoric acid	**EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Finland	
Orthophosphoric acid	**Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 3/2014).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
France	
Orthophosphoric acid	**Ministère du travail (France, 7/2012). Notes: Labour Act, Art. 4412-150 (Regulatory indicative exposure limits)** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes. STEL: 0.5 ppm 15 minutes. TWA: 0.2 ppm 8 hours.
Germany	
Orthophosphoric acid	**TRGS900 AGW (Germany, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: inhalable fraction PEAK: 4 mg/m³ 15 minutes. Form: inhalable fraction
Greece	
Orthophosphoric acid	**Υπουργείο Εργασίας και Κοινωνικών Υποθέσεων (Greece, 2/2012).** TWA: 1 mg/m³ 8 hours. STEL: 3 mg/m³ 15 minutes.
Hungary	
Orthophosphoric acid	**25/2000. (IX. 30.) EüM-SzCsM együttes rendelet (Hungary, 12/2011).** TWA: 1 mg/m³ 8 hours. PEAK: 2 mg/m³ 15 minutes.
Iceland	
Orthophosphoric acid	**Velferdarráðuneytið, Mengunarmarkaskrá (Iceland, 4/2009).** STEL: 2 mg/m³ 15 minutes. TWA: 1 mg/m³ 8 hours.
Ireland	
Orthophosphoric acid	**NAOSH (Ireland, 12/2011).** OELV-8hr: 1 mg/m³ 8 hours. OELV-15min: 2 mg/m³ 15 minutes.
Italy	
Orthophosphoric acid	**Ministry of Labour and Social Policy (Italy, 10/2013).** 8 hours: 1 mg/m³ 8 hours. Short Term: 2 mg/m³ 15 minutes.
Latvia	

SECTION 8: Exposure controls/personal protection

Calcium bis(dihydrogenorthophosphate)	**Ministru kabineta - AER (Latvia, 2/2011).** TWA: 10 mg/m³ 8 hours.
Orthophosphoric acid	**Ministru kabineta - AER (Latvia, 2/2011).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Lithuania	
Orthophosphoric acid	**Lietuvos Higienos Normos HN 23 (Lithuania, 10/2007).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Netherlands	
Orthophosphoric acid	**MinSZW Wettelijke Grenswaarden (Netherlands, 6/2014).** OEL, 8-h TWA: 1 mg/m³ 8 hours. STEL,15-min: 2 mg/m³ 15 minutes.
Norway	
Orthophosphoric acid	**FOR-2011-12-06-1358 (Norway, 1/2013).** TWA: 1 mg/m³ 8 hours.
Poland	
Orthophosphoric acid	**Rozporzadzenie Ministra Pracy i Polityki Spolecznej (Dz.U. 2014 poz. 817) (Poland, 6/2014).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Portugal	
Calcium sulphate, dihydrate	**Instituto Português da Qualidade (Portugal, 3/2007).** TWA: 10 mg/m³ 8 hours. Form: inhalable fraction
Orthophosphoric acid	**Instituto Português da Qualidade (Portugal, 3/2007).** TWA: 1 mg/m³ 8 hours. STEL: 3 mg/m³ 15 minutes.
Romania	
Orthophosphoric acid	**HG 1218/2006 cu modificările şi completările ulterioare (Romania , 1/2012).** VLA: 0.2 mg/m³ 8 hours. Short term: 0.5 mg/m³ 15 minutes.
Slovakia	
Calcium sulphate, dihydrate	**Nariadenie vlády SR c. 355/2006 (Slovakia, 12/2011).** TWA: 4 mg/m³, (Calcium sulphate) 8 hours. Form: inhalable fraction TWA: 1.5 mg/m³, (Calcium sulphate) 8 hours. Form: respirable fraction
Orthophosphoric acid	**Nariadenie vlády SR c. 355/2006 (Slovakia, 12/2011).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Slovenia	
Orthophosphoric acid	**Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Slovenia, 12/2010).** TWA: 1 mg/m³ 8 hours. KTV: 2 mg/m³, 4 times per shift, 15 minutes.
Spain	
Calcium sulphate, dihydrate	**INSHT (Spain, 1/2014).** TWA: 10 mg/m³ 8 hours.
Orthophosphoric acid	**INSHT (Spain, 1/2014).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Sweden	
Orthophosphoric acid	**AFS 2011:18 (Sweden, 12/2011).** TWA: 1 mg/m³ 8 hours. STEL: 3 mg/m³ 15 minutes.
Switzerland	

SECTION 8: Exposure controls/personal protection

Calcium sulphate, dihydrate	**SUVA (Switzerland, 1/2014).** TWA: 10 mg/m³ 8 hours. Form: Inhalable dust (total dust) TWA: 3 mg/m³ 8 hours. Form: Respirable dust (particulate matter)
Orthophosphoric acid	**SUVA (Switzerland, 1/2014).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
Turkey	
Orthophosphoric acid	**TR ISGGM OEL (Turkey, 12/2013).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
United Kingdom (UK)	
Calcium sulphate, dihydrate	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 10 mg/m³ 8 hours. Form: inhalable dust TWA: 4 mg/m³ 8 hours. Form: respirable dust
Orthophosphoric acid	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** STEL: 2 mg/m³ 15 minutes. TWA: 1 mg/m³ 8 hours.

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
Superphosphates, concentrated	DNEL	Long term Inhalation	3,1 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	17,4 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	10,4 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	0,9 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	2,1 mg/kg bw/day	Consumers	Systemic

DNEL/DMEL Summary : Irritating to the eyes.Very low toxicity to humans or animals.

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Superphosphates, concentrated	Freshwater Fish	85,9 mg/l	Assessment Factors
	Sewage Treatment Plant	10 mg/l	Assessment Factors

PNEC Summary : Very low acute toxicity to fish. No ecotoxic effects are known for this product. No known significant effects or critical hazards.

8.2 Exposure controls

Appropriate engineering controls : 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

SECTION 8: Exposure controls/personal protection

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.

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: chemical splash goggles and/or face shield. 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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 : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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. [Granular solid.]

Colour : Greyish-white to Brown.

Odour : Faint odour.

Odour threshold : Not available.

pH : 3 [Conc. (% w/w): 10%]

Melting point/freezing point : Not available.

Initial boiling point and boiling range : Decomposes.

Flash point : [Product does not sustain combustion.]

Evaporation rate : Not available.

Flammability (solid, gas) : No flammable ingredients present.

Upper/lower flammability or explosive limits : Not applicable.

Vapour pressure : <0 kPa [room temperature]

Vapour density : Not available.

Relative density : Not available.

Solubility(ies) : Partially soluble in the following materials: hot water.
Very slightly soluble in the following materials: cold water.

Solubility in water : 100 g/l

Partition coefficient: n-octanol/water : Not available.

SECTION 9: Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Explosive properties : No specific fire or explosion hazard.

Oxidising properties : None.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

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 compatability with your equipment.
Reactive or incompatible with the following materials:
strong alkalis
oxidizing materials

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
Superphosphates, concentrated	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5 g/m³	4 hours
	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-
Calcium bis (dihydrogenorthophosphate)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	3986 mg/kg	-
Orthophosphoric acid	LD50 Oral	Rat	1.25 g/kg	-

Conclusion/Summary : Not considered to be toxic to humans.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Superphosphates, concentrated	Skin	Rabbit	0	-	72 hours
	Eyes - Cornea opacity	Rabbit	2.3	-	72 hours

Conclusion/Summary

Skin : May cause skin irritation.

Eyes : Causes serious eye damage.

Respiratory : May cause respiratory irritation.

Sensitisation

SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result
Superphosphates, concentrated	Skin	Mouse	Not sensitizing

Conclusion/Summary

Skin : Non-sensitiser.

Respiratory : Non-sensitiser.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Superphosphates, concentrated	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Conclusion/Summary : No evidence of risk to humans.

Reproductive toxicity

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

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Superphosphates, concentrated	Negative - Oral	Rat - Female	750 mg/kg	-

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

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 : Routes of entry anticipated: Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May cause respiratory irritation.

Skin contact : May cause skin dryness and 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

Inhalation : No specific data. May cause respiratory irritation. Adverse symptoms may include the following:
coughing
wheezing and breathing difficulties

Skin contact : Adverse symptoms may include the following:
redness
dryness

SECTION 11: Toxicological information

Ingestion : Adverse symptoms may include the following:
stomach pains
nausea or vomiting
diarrhoea

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

Short term exposure

Potential immediate effects : Causes serious eye damage.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Superphosphates, concentrated	Chronic NOAEL Oral	Rat - Male, Female	250 g/kg	-

Conclusion/Summary : Not considered to be toxic to humans.

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
Superphosphates, concentrated	Acute LC50 >85.9 mg/l Fresh water	Fish	72 hours
	Acute NOEC 87.6 mg/l Fresh water	Algae	72 hours
Orthophosphoric acid	Acute EC50 105 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 60 ppm Fresh water	Fish - Lepomis macrochirus	96 hours

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

12.2 Persistence and degradability

Conclusion/Summary : According to EC criteria: Inherently biodegradable

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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

SECTION 12: Ecological information

vPvB : Not applicable.

vP: Not available. vB: Not available.

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

SECTION 13: Disposal considerations

If applicable: 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 : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
06 09 03*	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes calcium-based reaction wastes containing or contaminated with hazardous substances

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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
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.
Additional information	-	-	-	-

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.

SECTION 14: Transport information

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.

Priority List Chemicals (793/93/EEC) : Listed

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Seveso III Directive

This product is not controlled under the Seveso III Directive.

National regulations

References : Lijst Grenswaarden / Valeurs Limites

Denmark

MAL-code : 00-1

Restrictions on use : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order on young people's dangerous work.

France

Reinforced medical surveillance : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Germany

Storage class (TRGS 510) : 13

Hazard class for water : 2 Appendix No. 3

Technical instruction on air quality control : TA-Luft Number 5.2.1: 78-100%

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

Italy

D.Lgs. 152/06 : Not classified.

Netherlands

Biocidal products regulation : Not applicable.

Water Discharge Policy (ABM) : {11} Slightly harmful to aquatic organisms. Abatement effort: B

Switzerland

VOC content : Exempt.

International regulations

SECTION 15: Regulatory information

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 Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

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.
China	:	All components are listed or exempted.
Japan	:	All components are listed or exempted.
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.

15.2 Chemical safety assessment : Complete.

SECTION 16: Other information

Revision comments : Reference to classifications under Directive 1999/45/EC have been removed in accordance with current regulatory requirements given in Regulation (EC) No. 1272/2008, and Regulation (EC) No. 1907/2006.

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
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

SECTION 16: Other information

Chemical Substances, latest edition.
Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers
ERG 2012 Emergency Response Guidebook
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.
The Fertilizer Institute, Toxicity Testing Results, March 2003
Substance Information Exchange Forum Database

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

Classification	Justification
Eye Dam. 1, H318	Expert judgment

Europe

Full text of abbreviated H statements :

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Full text of classifications [CLP/GHS] :

Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Met. Corr. 1, H290	CORROSIVE TO METALS - Category 1
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B

Date of printing : 9/1/2016

Date of issue/ Date of revision : 8/31/2016

Date of previous issue : 11/18/2015

Version : 3.1

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Product definition : Multi-constituent substance

Identification of the substance or mixture

Code : 3216-27992

Product name : Triple Superphosphate, Granular, 0-46-0

Section 1 - Title

Short title of the exposure scenario : Agrium TSP 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: PROC03, 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, ERC10b
Market sector by type of chemical product: PC12
Article category related to subsequent service life: Not applicable.

Environmental contributing scenarios : **Not applicable.**

Health Contributing scenarios : **Bulk transfers -** PROC03, PROC05, PROC08a, PROC08b, PROC09, PROC26
Clean-down and maintenance of equipment - PROC03, 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.
An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.

Section 2 - Exposure controls

Contributing scenario controlling environmental exposure for 1: Not applicable.

Not applicable. Not classified as dangerous to the environment.

Contributing scenario controlling worker exposure for 1: Bulk transfers

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 : Use duration (h/d): >4

Human factors not influenced by risk management : Not applicable.

Other given operational 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	:	Provide a good standard of general ventilation. 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 and hygiene

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 2: 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	:	Use duration (h/d): >4
Human factors not influenced by risk management	:	Not applicable.
Other given operational 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. Provide a good standard of general ventilation. 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	:	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Engineering controls	:	Provide a good standard of general ventilation. 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 and hygiene		
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 3: 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	:	Use duration (h/d): >4
Human factors not influenced by risk management	:	Not applicable.
Other given operational 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	:	Provide a good standard of general ventilation. 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 and hygiene		
Personal protection	:	Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust. Wear suitable coveralls to prevent exposure to the skin. Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. Adequate ventilation should be provided if there is risk of aerosol formation. If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist. In case of inadequate ventilation wear respiratory protection: Approved/ certified respirator with appropriate particulate dust filters.
Respiratory protection	:	Filtering half-face mask (DIN EN 149)

Contributing scenario controlling worker exposure for 4: 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	:	Use duration (h/d): >4
Human factors not influenced by risk management	:	Not applicable.
Other given operational 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	:	Provide a good standard of general ventilation. 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 and hygiene

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.
Respiratory protection	:	Filtering half-face mask (DIN EN 149)

Contributing scenario controlling worker exposure for 5: 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	:	Use duration (h/d): >4
Human factors not influenced by risk management	:	Not applicable.
Other given operational 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	:	Provide a good standard of general ventilation. 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 and hygiene

Personal protection	:	If operating conditions cause high dust concentrations to be produced, use dust goggles.
Respiratory protection	:	Filtering half-face mask (DIN EN 149)

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: 6: Not applicable.

Exposure assessment (environment):	:	Qualitative approach used to conclude safe use.
Exposure estimation	:	Not available.

Exposure estimation and reference to its source - Workers:1: Bulk transfers

Exposure assessment (human):	:	Qualitative approach used to conclude safe use.
Exposure estimation	:	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:2: Clean-down and maintenance of equipment

Exposure assessment (human):	:	Qualitative approach used to conclude safe use.
Exposure estimation	:	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: Mixing operations (open systems)

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

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

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

Product definition : Multi-constituent substance

Identification of the substance or mixture

Code : 3216-27992

Product name : Triple Superphosphate, Granular, 0-46-0

Section 1 - Title

Short title of the exposure scenario : Agrium TSP 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: PC12

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 1: 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 : >4 Hours per shift

Human factors not influenced by risk management : Not applicable.

Other given operational 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. Provide a good standard of general ventilation. 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, skin and clothing. Ensure the area is organised, well-lit and ventilated, with enough space to deal with spills easily. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.
Organisational measures to prevent/limit releases, dispersion and exposure	:	Not applicable.

Conditions and measures related to personal protection and hygiene

Advice on general occupational hygiene	:	Ensure good industrial hygiene. Avoid contact with eyes, skin and clothing. Avoid creating dusty conditions and prevent wind dispersal. Work in well-ventilated zones or use proper respiratory protection.
Personal protection	:	Use suitable eye protection. If operating conditions cause high dust concentrations to be produced, use dust goggles. Use appropriate respiratory protection if there is a risk of exceeding any exposure limits. If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist. In case of inadequate ventilation wear respiratory protection: Filtering device (DIN EN 147) Wear dust-resistant protective clothing.

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: 2: 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	:	Not available.

Exposure estimation and reference to its source - Workers:1: 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	:	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.