Agrium Europe

SAFETY DATA SHEET

TRIPLE SUPER PHOSPHATE, GRANULAR, 0-46-0

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

1.1 Product identifier

Product name : TRIPLE SUPER PHOSPHATE, GRANULAR, 0-46-0

REACH Registration number

Registration number	Substance
01-2119493057-33	Triple Superphosphate

Product code : 3216-29874

Product description : EC FERTILISER Triple Superphosphate 0-46-0 CAS# 65996-95-4

Product type : Solid.

Other means of identification : Superphosphates, concentrated

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). 4: Use in the manufacturing of formulations for specific use chemicals Uses by professional workers: 7: Professional use – solid fertiliser for fields 9: Professional use – outdoor mixing of fertiliser formulations 10: Professional use – indoor mixing of fertiliser formulations

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 : AUSTRIA +43 1 40 400 2222
BELGIUM +32 70 245 245
BULGARIA +359 2 9154 409
CZECH REPUBLIC +42 2 2491 9293 or +42 2 2491 5402
DENMARK +45 82 12 12 12
FINLAND +358 9 471 977
FRANCE:
ANGERS 02 41 48 21 21
BORDEAUX 05 56 96 40 80

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

LILLE 0 825 812 822
LYON 04 72 11 69 11
MARSEILLE 04 91 75 25 25
NANCY 03 83 32 36 36
PARIS 01 40 05 48 48
RENNES 02 99 59 22 22
STRASBOURG 03 88 37 37 37
TOULOUSE 05 61 77 74 47
GERMANY:
Berlin +49 30 19240
Bonn +49 228 287 3211
Erfurt +49 361 730 730
Freiburg +49 761 19240
Gottingen +49 551 19240
Homburg/Saar +49 6841 19240
Mainz +49 6841 19240
Munich +49 89 19240
Nurenberg +49 911 3892665
GREECE +30 10 779 3777
HUNGARY +36 80 20 11 99
ICELAND +354 525 111, +354 543 2222
IRELAND (REPUBLIC OF) +353 1 8379964
ITALY:
Bologna +39 051 647 8955
Catania +39 095 25 4409
Cesena +39 054 735 2612
Chieti +39 87 134 5362
Firenze +39 055 794 6150
Genoa +39 10 352 808
Lecce +39 0832 68 5374
Milan +39 02 6610 1029
Naples +39 081 45 9802
Pavia +39 03 822 4444
Pordenone +39 0434 399335
Reggio Calabria +39 96 581 1624
Roma +39 06 305 4343
Torino +39 011 663 7637
Trieste +39 04 0378 5373
LATVIA +371 704 2468
LITHUANIA +370 2 36 20 52, +370 2 36 20 92
NETHERLANDS +31 30 274 88 88
POLAND:
Gdansk +48 58 301 65 16 or +48 58 349 2831
Krakow +48 12 411 99 99
Lòdz +48 42 63 14 724
Lublin +48 81 740 2675 or +48 81 740 2676
Poznan +48 61 84 769 46
Rzeszów +48 17 86 64 000 or +48 17 86 64 404
Sosnowiec +48 32 266 11 45
Warszawa +48 22 619 66 54; +48 22 619 08 97
Wroclaw +48 71 343 30 08 or +48 71 789 02 14
PORTUGAL +351 21 330 3284
ROMANIA +40 21 230 8000
SLOVAKIA +421 2 54 77 4 166
SLOVENIA + 386 41 650 500
SPAIN:
Barcelona +34 93 227 98 33 or +34 93 227 54 00 bleep 190
Madrid +34 91 562 04 20
Sevilla +34 95 437 12 33
SWEDEN +46 8 33 12 31 (International) 112 (National)
SWITZERLAND +41 44 251 51 51 (145 from within Switzerland and Liechtenstein)
TURKEY 0 800 314 7900 (Turkey) only, or +90 0312 433 70 01
UNITED KINGDOM +44 (0)20 7188 0100

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

Supplier

Telephone number : Agrium Europe
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]

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 Expert judgment

Europe

Classification : Xi; R41

See Section 16 for the full text of the R phrases or 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.

Precautionary statements

General : Not applicable.

Prevention : P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response : P305 + P351 + P338 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

Supplemental label elements : 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.

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

Other hazards which do not result in classification : Not available.

SECTION 3: Composition/information on ingredients

Substance/mixture : Multi-constituent substance

Product/ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Europe					
calcium bis (dihydrogenorthophosphate)	EC: 231-837-1 CAS: 7758-23-8	~59	Not classified.	Not classified.	[A]
Calcium sulfate, dihydrate	REACH #: 01-2119444918-26 EC: 231-900-3 CAS: 10101-41-4	~15	Not classified.	Not classified.	[A]
Fluorapatite (Ca5F (PO4)3)	EC: 215-144-1 CAS: 1306-05-4	5	Not classified.	Not classified.	[A]
Orthophosphoric acid	EC: 231-633-2 CAS: 7664-38-2	3	Xn; R22	Acute Tox. 4, H302	[A]
calcium hydrogenorthophosphate	EC: 231-826-1 CAS: 7757-93-9	2	Not classified.	Not classified.	[B]
calcium fluoride	EC: 232-188-7 CAS: 7789-75-5	1	Not classified.	Not classified.	[B]
magnesium sulphate	EC: 231-298-2 CAS: 7487-88-9	1	Not classified.	Not classified.	[B]
			See Section 16 for the full text of the R-phrases declared above.	**See Section 16 for the full text of the H statements declared above.**	

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

[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 : In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Check for and remove any contact lenses. Call a poison center or physician. Get medical attention immediately. Chemical burns must be treated promptly by a physician.

Inhalation : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Maintain an open airway. If unconscious, place in recovery position and get medical attention immediately. Call a poison center or physician. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. If unconscious, place in recovery position and get medical attention immediately. Never give anything by mouth to an unconscious person. 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. Maintain an open airway. Call a poison center or physician.

SECTION 4: First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

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

Inhalation : May cause respiratory irritation.

Skin contact : Adverse symptoms may include the following:
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.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : 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
Corrosive gas.

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.

SECTION 5: Firefighting measures

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. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. 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 materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.

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. Keep container tightly closed and sealed until ready for use. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : See Annex to the Safety data sheet for additional information in the Exposure Scenario(s).

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 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).

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.
calcium fluoride	**EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values** TWA: 2.5 mg/m³ 8 hours.
Austria	
orthophosphoric acid	**GKV_MAK (Austria, 9/2007).** TWA: 1 mg/m³ 8 hours. PEAK: 2 mg/m³, 4 times per shift, 15 minutes.
calcium fluoride	**GKV_MAK (Austria, 9/2007).** TWA: 2.5 mg/m³, (measured as F) 8 hours. Form: inhalable fraction PEAK: 12.5 mg/m³, (measured as F), 2 times per shift, 30 minutes. Form: inhalable fraction
Belgium	
orthophosphoric acid	**Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2009).** TWA: 1 mg/m³ 8 hours. STEL: 2 mg/m³ 15 minutes.
calcium fluoride	**Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2009).** TWA: 2.5 mg/m³ 8 hours.
Bulgaria	
Orthophosphoric acid	**РБ МТСП и МЗ Наредба №13/2003 (Bulgaria, 8/2007).** Limit value 15 min: 2 mg/m³ 15 minute(s). Limit value 8 hours: 1 mg/m³ 8 hour(s).
calcium fluoride	**РБ МТСП и МЗ Наредба №13/2003 (Bulgaria, 8/2007).** Limit value 8 hours: 2.5 mg/m³ 8 hour(s).
Croatia	
Orthophosphoric acid	**EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values** TWA: 2.5 mg/m³ 8 hour(s).
Czech Republic	
Orthophosphoric acid	**178/2001 (Czech Republic, 12/2007).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**178/2001 (Czech Republic, 12/2007).** TWA: 2.5 mg/m³, (as F) 8 hour(s). STEL: 5 mg/m³, (as F) 15 minute(s).
Denmark	
Orthophosphoric acid	**Arbejdstilsynet (Denmark, 3/2008).** TWA: 1 mg/m³ 8 hour(s).
calcium fluoride	**Arbejdstilsynet (Denmark, 3/2008).** TWA: 2.5 mg/m³, (calculated as F) 8 hour(s).
Estonia	

SECTION 8: Exposure controls/personal protection

Orthophosphoric acid	**Sotsiaalminister (Estonia, 10/2007).** TWA: 1 mg/m³ 8 hour(s). Form: vapour STEL: 2 mg/m³ 15 minute(s). Form: vapour
calcium fluoride	**Sotsiaalminister (Estonia, 10/2007).** TWA: 2.5 mg/m³ 8 hour(s).
Finland	
Orthophosphoric acid	**Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 7/2009).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 7/2009).** TWA: 2.5 mg/m³, (calculated as F) 8 hour(s).
France	
Orthophosphoric acid	**INRS (France, 12/2007). Notes: Regulatory indicative exposure limits** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s). STEL: 0.5 ppm 15 minute(s). TWA: 0.2 ppm 8 hour(s).
calcium fluoride	**INRS (France, 12/2007). Notes: Regulatory indicative exposure limits** TWA: 2.5 mg/m³ 8 hour(s).
Germany	
Orthophosphoric acid	**TRGS900 AGW (Germany, 2/2010).** TWA: 2 mg/m³ 8 hour(s). Form: Inhalable fraction. PEAK: 4 mg/m³ 15 minute(s). Form: Inhalable fraction.
calcium fluoride	**TRGS900 AGW (Germany, 2/2010). Absorbed through skin.** TWA: 1 mg/m³, (calculated as F) 8 hour(s). Form: inhalable fraction PEAK: 4 mg/m³, (calculated as F) 15 minute(s). Form: inhalable fraction
Greece	
orthophosphoric acid	**PD 90/1999 (Greece, 8/2007).** TWA: 1 mg/m³ 8 hour(s). STEL: 3 mg/m³ 15 minute(s).
calcium fluoride	**PD 90/1999 (Greece, 8/2007).** TWA: 2.5 mg/m³, (as F) 8 hour(s).
Hungary	
Orthophosphoric acid	**EüM-SzCsM (Hungary, 12/2007).** TWA: 1 mg/m³ 8 hour(s). PEAK: 2 mg/m³ 15 minute(s).
calcium fluoride	**EüM-SzCsM (Hungary, 12/2007). Absorbed through skin. Skin sensitiser.** TWA: 2.5 mg/m³, (as F) 8 hour(s). PEAK: 10 mg/m³, (as F) 15 minute(s).
Ireland	
Orthophosphoric acid	**NAOSH (Ireland, 5/2010).** OELV-8hr: 1 mg/m³ 8 hour(s). OELV-15min: 2 mg/m³ 15 minute(s).
calcium fluoride	**NAOSH (Ireland, 5/2010).** OELV-8hr: 2.5 mg/m³, (as F) 8 hour(s).
Italy	

SECTION 8: Exposure controls/personal protection

Calcium sulfate, dihydrate	**ACGIH TLV (United States, 2/2010).** TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM–TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.
Orthophosphoric acid	**Ministero della Salute (Italy, 8/2009).** 8 hours: 1 mg/m³ 8 hour(s). short term: 2 mg/m³ 15 minute(s).
calcium fluoride	**Ministero della Salute (Italy, 8/2009).** 8 hours: 2.5 mg/m³, (expressed as F) 8 hour(s).
Latvia	
calcium bis(dihydrogenorthophosphate)	**LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).** TWA: 10 mg/m³ 8 hour(s).
Orthophosphoric acid	**LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium bis(dihydrogenorthophosphate)	**LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).** TWA: 10 mg/m³ 8 hour(s).
calcium fluoride	**LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007).** TWA: 0.5 mg/m³ 8 hour(s). STEL: 2.5 mg/m³ 15 minute(s).
Lithuania	
Orthophosphoric acid	**Del Lietuvos Higienos Normos (Lithuania, 10/2007).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**Del Lietuvos Higienos Normos (Lithuania, 10/2007).** TWA: 2.5 mg/m³, (as F) 8 hour(s).
Netherlands	
Orthophosphoric acid	**MinSZW Wettelijke Grenswaarden (Netherlands, 4/2008).** OEL, 8-h TWA: 1 mg/m³ 8 hour(s). STEL,15-min ref: 2 mg/m³ 15 minute(s).
calcium fluoride	**EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values** TWA: 2.5 mg/m³ 8 hour(s).
Norway	
Orthophosphoric acid	**Arbeidstilsynet (Norway, 3/2009).** TWA: 1 mg/m³ 8 hour(s).
calcium fluoride	**Arbeidstilsynet (Norway, 3/2009).** TWA: 0.6 mg/m³, (calculated as F) 8 hour(s).
Poland	
Orthophosphoric acid	**Rozporządzenie Ministra Pracy i Polityki Społecznej (Poland, 7/2009).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**Rozporządzenie Ministra Pracy i Polityki Społecznej (Poland, 7/2009).** TWA: 2 mg/m³, (calculated as F) 8 hour(s).
Portugal	
Calcium sulfate, dihydrate	**Instituto Português da Qualidade (Portugal, 3/2007).** TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction.
Orthophosphoric acid	**Instituto Português da Qualidade (Portugal, 3/2007).** TWA: 1 mg/m³ 8 hour(s). STEL: 3 mg/m³ 15 minute(s).
calcium fluoride	**Instituto Português da Qualidade (Portugal, 3/2007).** TWA: 2.5 mg/m³, (expressed as F) 8 hour(s).

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Romania	
Orthophosphoric acid	**Ministerul Muncii, Solidarității Sociale şi Familiei, şi Ministerul Sănătății Publice (Romania, 10/2006).** VLA: 0.2 mg/m³ 8 hour(s). Short term: 0.5 mg/m³ 15 minute(s).
calcium fluoride	**Ministerul Muncii, Solidarității Sociale şi Familiei, şi Ministerul Sănătății Publice (Romania, 10/2006).** VLA: 1 mg/m³ 8 hour(s). Short term: 2 mg/m³ 15 minute(s).
Slovakia	
Orthophosphoric acid	**Nariadenie Vlády Slovenskej republiky (Slovakia, 6/2007).** TWA: 1 mg/m³ 8 hour(s). CEIL: 2 mg/m³
calcium fluoride	**Nariadenie Vlády Slovenskej republiky (Slovakia, 6/2007).** TWA: 2.5 mg/m³, (as fluor) 8 hour(s). CEIL: 5 mg/m³, (as fluor)
Slovenia	
Orthophosphoric acid	**Uradni list Republike Slovenije (Slovenia, 6/2007).** TWA: 1 mg/m³ 8 hour(s). KTV: 2 mg/m³, 4 times per shift, 15 minute(s).
calcium fluoride	**Uradni list Republike Slovenije (Slovenia, 6/2007).** TWA: 2.5 mg/m³, (measured as fluor) 8 hour(s). Form: inhalable fraction KTV: 2.5 mg/m³, (measured as fluor), 4 times per shift, 15 minute (s). Form: Inhalable fraction.
Spain	
Orthophosphoric acid	**INSHT (Spain, 5/2010).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**INSHT (Spain, 5/2010).** TWA: 2.5 mg/m³, (as F) 8 hour(s).
Sweden	
Orthophosphoric acid	**AFS 2005:17 (Sweden, 6/2007).** TWA: 1 mg/m³ 8 hour(s). STEL: 3 mg/m³ 15 minute(s).
calcium fluoride	**AFS 2005:17 (Sweden, 6/2007).** TWA: 2 mg/m³, (as F) 8 hour(s).
Switzerland	
Calcium sulfate, dihydrate	**SUVA (Switzerland, 1/2009). Oxygen Depletion [Asphyxiant].** TWA: 3 mg/m³ 8 hour(s). Form: Respirable dust
Orthophosphoric acid	**SUVA (Switzerland, 1/2009).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**SUVA (Switzerland, 1/2009). Absorbed through skin.** TWA: 1 mg/m³, (calculated as F) 8 hour(s). Form: Inhalable fraction. STEL: 4 mg/m³, (calculated as F) 15 minute(s). Form: Inhalable fraction.
Turkey	
Orthophosphoric acid	**TR ISGGM OEL (Turkey, 3/2008).** TWA: 1 mg/m³ 8 hour(s). STEL: 2 mg/m³ 15 minute(s).
calcium fluoride	**TR ISGGM OEL (Turkey, 3/2008).** TWA: 2.5 mg/m³ 8 hour(s).
United Kingdom (UK)	

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Orthophosphoric acid	**EH40/2005 WELs (United Kingdom (UK), 8/2007).** STEL: 2 mg/m³ 15 minute(s). TWA: 1 mg/m³ 8 hour(s).
calcium fluoride	**EH40/2005 WELs (United Kingdom (UK), 8/2007).** TWA: 2.5 mg/m³, (as F) 8 hour(s).

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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Derived effect levels

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

Predicted effect concentrations

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
Superphosphates, concentrated	PNEC	Fresh water	1.7 mg/l	Assessment Factors
	PNEC	Sewage Treatment Plant	10 mg/l	Assessment Factors

PEC 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

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. 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.

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.

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, air-purifying or air-fed 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 8: Exposure controls/personal protection

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)	:	Non-combustible.
Burning time	:	Not applicable
Burning rate	:	Not applicable
Upper/lower flammability or explosive limits	:	Not applicable
Vapour pressure	:	Not applicable.
Vapour density	:	Not applicable.
Relative density	:	Not available.
Solubility(ies)	:	Partially soluble in the following materials: hot water cold water.
Partition coefficient: n-octanol/ water	:	Not available.
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available.
Viscosity	:	Not applicable
Explosive properties	:	Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. No specific fire or explosion hazard.
Oxidising properties	:	None.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Stable under recommended storage and handling conditions (see Section 7).
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	:	No specific data.
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
calcium bis (dihydrogenorthophosphate)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	3986 mg/kg	-
Orthophosphoric acid	LD50 Oral	Rat	1.25 g/kg	-
calcium fluoride	LD50 Oral	Rat	4250 mg/kg	-

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

Irritation/Corrosion

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

Conclusion/Summary

Skin : No significant irritation expected other than possible mechanical irritation.

Eyes : Causes severe eye irritation.

Respiratory : May cause respiratory irritation.

Sensitisation

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.

SECTION 11: Toxicological information

Information on the likely routes of exposure : Routes of entry anticipated:Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

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

Inhalation : May cause respiratory irritation.

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

Ingestion : Adverse symptoms may include the following:
stomach pains

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
magnesium sulphate	Acute EC50 343560 ug/L Fresh water Acute LC50 2820000 ug/L Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas - 1 to 7 days	48 hours 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

SECTION 12: Ecological information

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable. Inorganic salt.

Not vPvB. : Not applicable. Inorganic salt.

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. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. or Recover the material and use it for its intended purpose. 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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

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 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	-	-	-	-

SECTION 14: Transport information

14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	Not available.	Not available.	Not available.	Not available.
Additional information	-	-	-	-

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

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.

Black List Chemicals : Not listed

Priority List Chemicals : Listed

Integrated pollution prevention and control list (IPPC) - Air : Listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

National regulations

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.

List of undesirable substances : Not listed

France

Social Security Code, Articles L 461-1 to L 461-7 : calcium fluoride RG 32

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

Hazard class for water : 3 Appendix No. 3

Technical instruction on air quality control : TA-Luft Number 5.2.1: 89%
TA-Luft Class II - Number 5.2.4: 1%

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

D.Lgs. 152/06 : Not classified.

International regulations

SECTION 15: Regulatory information

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

15.2 Chemical Safety Assessment : Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Revision comments : Section 1. Identification of the substance/mixture and of the company/undertaking
Section 4. First-aid measures
Section 7. Handling and storage

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

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 : H318 Causes serious eye damage.

Full text of classifications [CLP/GHS] : Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

Full text of abbreviated R phrases :
R41- Risk of serious damage to eyes.

Full text of classifications [DSD/DPD] : Xi - Irritant

Date of issue/ Date of revision : 12/17/2013.

Version : 1

Notice to reader

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FURTHERMORE, THE RECIPIENT ASSUMES ALL RISK IN CONNECTION WITH THE USE OF THE MATERIAL.

SECTION 16: Other information

THE RECIPIENT ASSUMES ALL RESPONSIBILITY FOR ENSURING THE MATERIAL IS USED IN A SAFE MANNER IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL, HEALTH, SAFETY AND SECURITY LAWS, POLICIES AND GUIDELINES. THE SUPPLIER DOES NOT WARRANT THE MERCHANTABILITY OF THE MATERIAL OR THE FITNESS OF THE MATERIAL FOR ANY PARTICULAR USE AND ASSUMES NO RESPONSIBILITY FOR INJURY OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY OR RELATED TO THE USE OF THE MATERIAL.

Product definition : Multi-constituent substance

Identification of the substance or mixture

Code : 3216-29874

Product name : TRIPLE SUPER PHOSPHATE, 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/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.

Product definition : Multi-constituent substance

Identification of the substance or mixture

Code : 3216-29874

Product name : TRIPLE SUPER PHOSPHATE, 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/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/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: 2: 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:3: 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:4: 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:5: 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:6: 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.