

SAFETY DATA SHEET

Sulphate of Potash, Granular 0-0-50

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

1.1 Product identifier

Product name : Sulphate of Potash, Granular 0-0-50

EC number : Not applicable.

REACH Registration number

Registration number	Substance
01-2119489441-34-XXXX	Sulphate of Potash

CAS number : 7778-80-5

Product code : 1658-27988; 4556-27988; 4556-30800; 5376-27988; 5416-30800; 5436-30801; 5436-31053

Product description : EC FERTILISER Straight Fertiliser Sulphate of Potash, Crystallised 0-0-50

Product type : Granular solid.

Other means of identification : Not available.

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

Identified uses	
Fertiliser. Manufacture of chemicals. Manufacture of speciality fertilisers.	
Uses advised against	Reason
None identified.	Evaluation

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

National advisory body/Poison Centre

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

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 49 192 93
DENMARK +45 82 12 12 12
ESTONIA 16662; +372 62 69 379
FINLAND +358 9 471977

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

FRANCE

Angers +33 (0)2 41 48 21 21
Bordeaux +33 (0)5 56 96 40 80
Lille 0800 59 59 59 (national callers)
Lyon +33 (0)4 72 11 69 11
Marseille +33 (0)4 91 75 25 25
Nancy +33 (0)3 83 22 50 50
Paris +33 (0)1 40 05 48 48
Rennes +33 (0)2 99 59 22 22
Strasbourg +33 (0)3 88 37 37 37
Toulouse +33 (0)5 61 77 74 47

GEORGIA +995 99 53 33 20

GERMANY

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
Lodz +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)

ROMANIA +402 212 106 282

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

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UNITED KINGDOM
Belfast 844 892 0111
Birmingham 844 892 0111
Edinburgh 844 892 0111
Newcastle Upon Tyne +44 191 2606182; +44 191 2606180
Penarth 844 892 0111

Supplier

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

Hours of operation : 24/7/365

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

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

Eye Irrit. 2, H319

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

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

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

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements

General : P103 Read label before use.
P102 Keep out of reach of children.
P101 If medical advice is needed, have product container or label at hand.

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

Response : P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : Potassium hydrogensulphate

Supplemental label elements : Not applicable.

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

Special packaging requirements

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SECTION 2: Hazards identification

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

Tactile warning of danger : Not applicable.

2.3 Other hazards

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

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

Other hazards which do not result in classification : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

3.1 Substances : Mono-constituent substance

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Potassium sulphate	REACH #: 01-2119489441-34-XXXX	>85	Not classified.	[A]
Potassium hydrogensulphate	EC No.: 231-915-5 CAS: 7778-80-5 EC No. 231-594-1 CAS #: 7646-93-7	<5%	SKIN CORROSION/ IRRITATION 1B; H314 STOT SE 3; H335 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

[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 : Begin eye irrigation immediately. Exposures to eye irritants may require medical evaluation following decontamination if pain or irritation persists. Immediately rinse eyes with large quantities of water or saline for a minimum of 15 minutes. 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. For additional advice call the medical emergency number on this SDS or your poison center or physician.

Inhalation : No special measures are typically indicated. Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : No special measures required. Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

SECTION 4: First aid measures

- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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. For professional, multilingual, medical support, in case of medical emergencies involving Nutrien products, telephone the Nutrien global 24 hour Emergency Number: 00-1-303-389-1654
- Specific treatments** : 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 combustion products** : Decomposition products may include the following materials:
sulfur 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. Avoid breathing dust.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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

6.3 Methods and material for containment and cleaning up

- Small spill** : Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Recover the material and use it for its intended purpose.
or
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.
- Large spill** : Use personal protective equipment as required. Avoid creating dusty conditions and prevent wind dispersal. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle to process, if possible.
or
Dispose of via a licensed waste disposal contractor.

- 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). Avoid breathing dust. Do not ingest.
- Advice on general occupational hygiene** : Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

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

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

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

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

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.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Sulphate of Potash	DNEL	Long term	21,3 mg/kg bw/day	Workers	Systemic Dermal
	DNEL	Long term	37,6 mg/m ³	Workers	Systemic Inhalation

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Potassium sulphate	Fresh water	0,68 mg/l	Assessment Factors

8.2 Exposure controls

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

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles. Recommended: Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust.

Skin protection

Hand protection : Inorganic salt. Prolonged or repeated exposure may dry the skin, causing irritation. 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 : 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. Possible: disposable particulate mask

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. [Powder. Crystals.]
Colour	: Colourless. White.
Odour	: Odourless.
Odour threshold	: Not available.
pH	: 3 to 4 [Conc. (% w/w): 10%]
Melting point/freezing point	: 1067°C
Initial boiling point and boiling range	: 1689
Flash point	: [Product does not sustain combustion.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Non-combustible.
Upper/lower flammability or explosive limits	: Not applicable.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: 1,27 to 1,44
Solubility(ies)	: Easily soluble in the following materials: hot water. Soluble in the following materials: cold water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Explosive properties	: No specific fire or explosion hazard.
Oxidising properties	: No oxidising ingredients present.

9.2 Other information

Solubility in water : 120 g/l

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No known significant effects or critical hazards.

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
Potassium sulphate	LD50 Oral	Rat	6600 mg/kg	-

Conclusion/Summary : Low acute toxicity. Effects are not sufficient for classification as hazardous.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Potassium sulphate	Irritating to the eyes.				

Conclusion/Summary

Skin : No evidence of risk to humans.
Eyes : Causes serious eye irritation.
Respiratory : May cause slight transient irritation.

Sensitisation

Conclusion/Summary

Skin : No known significant effects or critical hazards.
Respiratory : No known significant effects or critical hazards.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Potassium sulphate	OECD 422 422 Combined Repeated Dose Toxicity Study with the Reproduction/ Developmental Toxicity Screening Test	Experiment: In vivo Subject: Mammalian-Animal Cell: Germ	Negative

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

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Potassium sulphate	Negative	Negative	Negative	Rat - Male, Female	Oral: 1500 mg/ kg	53 days

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

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium sulphate	Negative - Oral	Rat - Male, Female	1500 mg/kg	53 days

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.

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SECTION 11: Toxicological information

Information on likely routes of exposure : Skin contact
Inhalation

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness
Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
Skin contact : No specific data.
Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Causes serious eye irritation.
Potential delayed effects : No known effect according to our database.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.
Potential delayed effects : No known effect according to our database.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Potassium sulphate	Chronic NOAEL Oral	Rat - Male, Female	1500 mg/kg	-

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

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium sulphate	Acute LC50 <680000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <24 hours	48 hours
	Acute LC50 720000 ug/L Fresh water	Daphnia - Daphnia magna - <24 hours	48 hours
	Acute LC50 680000 ug/L Fresh water	Fish - Pimephales promelas - 1 to 7 days	96 hours

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SECTION 12: Ecological information

Conclusion/Summary : Practically non-toxic to aquatic organisms. Based on available data, the classification criteria are not met.

12.2 Persistence and degradability

Conclusion/Summary : According to EC criteria: Inherently biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Potassium sulphate	-	-	Readily

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. Inorganic salt.

vPvB : No. 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. 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 : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

European waste catalogue (EWC)

Waste code	Waste designation
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

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. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 14: Transport information

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

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 : This material is listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso III Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

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SECTION 15: Regulatory information

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

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

15.2 Chemical safety assessment : Complete.

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

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

Key literature references and sources for data : REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.
ECHA, European Chemicals Agency, Classification and Labelling Database
DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 4 JULY 2012 on the control of major-accident hazards involving dangerous substances
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.
Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, with successive amendments.
REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF

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SECTION 16: Other information

THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.
American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.
Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers
ERG 2016 Emergency Response Guidebook
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.
The Fertilizer Institute, Toxicity Testing Results, March 2003

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

Classification	Justification
Eye Irrit. 2, H319	Calculation method

Full text of abbreviated H statements

H319	Causes serious eye irritation.
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Full text of classifications [CLP/GHS]

Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
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Version : 3.8

Notice to reader

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Product definition : Mono-constituent substance

Identification of the substance or mixture

Code : 1658-27988; 4556-27988; 4556-30800; 5376-27988; 5416-30800; 5436-30801; 5436-31053

Product name : Sulphate of Potash, Granular 0-0-50

Section 1 - Title

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

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

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

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

Number of the ES : 1

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

Section 2 - Exposure controls

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

Contributing exposure 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 operational conditions affecting worker exposure : Indoor or outdoor use Amounts used

Area of use: : Indoor and outdoor use.

Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Ensure good industrial hygiene. Provide eye shower and mark its location conspicuously.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.
Respiratory protection	: If ventilation is inadequate, use respirator that will protect against dust/mist.

Contributing exposure 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 operational conditions affecting worker exposure	: Indoor or outdoor use
Area of use:	: Indoor and outdoor use.
Technical conditions and measures at process level (source) to prevent release	: Restrict access while emptying or maintaining the unit. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Since the emptied containers retain product residue, follow product insert warnings even after container is emptied.
Process control/change measures	: These controls may include segregation of areas, access only to authorised persons, permit to work systems, confined space working procedures, and hazard awareness training.
Technical conditions and measures to control dispersion from source towards the worker	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Provide adequate ventilation and, if possible, use or install internal exhaust systems.

Organisational measures to prevent/limit releases, dispersion and exposure : Not applicable.

Conditions and measures related to personal protection, hygiene and health evaluation

Advice on general occupational hygiene : A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. Pay attention to good general hygiene and housekeeping. Provide eye shower and mark its location conspicuously. When using do not eat or drink.

Personal protection : If operating conditions cause high dust concentrations to be produced, use dust goggles.

Respiratory protection : If ventilation is inadequate, use respirator that will protect against dust/mist.

Contributing exposure 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 operational conditions affecting worker exposure : Indoor use

Area of use: : Indoor

Technical conditions and measures at process level (source) to prevent release : Not applicable.

Process control/change measures : Not applicable.

Technical conditions and measures to control dispersion from source towards the worker : Use appropriate containment to avoid environmental contamination. Provide enhanced general ventilation by mechanical means.

Engineering controls : Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Ventilation control measures : Provide adequate ventilation and, if possible, use or install internal exhaust systems.

Organisational measures to prevent/limit releases, dispersion and exposure : Not applicable.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection : Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to dust.

Contributing exposure 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 operational conditions affecting worker exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.
Technical conditions and measures to control dispersion from source towards the worker	: Ensure the area is organised, well lit and ventilated with enough space to deal with spills easily.
Engineering controls	: Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
Ventilation control measures	: Ensure sufficient ventilation when re-packing damaged packages. Only use product in a well-ventilated area.
Organisational measures to prevent/limit releases, dispersion and exposure	: Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation	
Advice on general occupational hygiene	: A washing facility or water for eye and skin cleaning purposes should be present. Brush off contaminated clothing. When using do not eat or drink.
Personal protection	: If operating conditions cause high dust concentrations to be produced, use dust goggles.

Contributing exposure 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 operational conditions affecting worker exposure	: Indoor use
Area of use:	: Indoor
Technical conditions and measures at process level (source) to prevent release	: Not applicable.
Process control/change measures	: Not applicable.

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

Section 3 - Exposure estimation and reference to its source

Website:	: Qualitative approach used to conclude safe use.
Exposure estimation and reference to its source - Environment: 6: An environmental assessment has not been done as the substance does not meet the criteria for being classified as dangerous for the environment.	
Exposure assessment (environment):	: Qualitative approach used to conclude safe use.
Exposure estimation	: 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 Downstream User to evaluate if 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 : Mono-constituent substance

Identification of the substance or mixture

Code : 1658-27988; 4556-27988; 4556-30800; 5376-27988; 5416-30800; 5436-30801; 5436-31053

Product name : Sulphate of Potash, Granular 0-0-50

Section 1 - Title

Short title of the exposure scenario : Nutrien SOP ES for Professionals

List of use descriptors : **Identified use name:** Professional use in formulation of preparations and end-use.
Process Category: PROC03, PROC08a, PROC08b, PROC09, PROC26
Substance supplied to that use in form of: As such
Sector of end use: SU01, SU03, SU10, SU22
Subsequent service life relevant for that use: No.
Environmental Release Category: ERC02, ERC08b, ERC08e
Market sector by type of chemical product: PC11, PC12, PC19, PC21, PC37

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

Health Contributing scenarios : **All process categories are addressed by this contributing scenario as all Operational Conditions and Risk Management Measures are identical.**

Number of the ES : 2

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

Section 2 - Exposure controls

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

Not applicable.

Contributing scenario controlling worker exposure for 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 conditions affecting workers exposure : Indoor or outdoor use

Area of use: : Indoor and outdoor use.

Technical conditions and measures at process level (source) to prevent release : Not applicable.

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

Section 3 - Exposure estimation and reference to its source

Website:	: Qualitative approach used to conclude safe use.
Exposure estimation and reference to its source - Environment: 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 AND REFERENCE TO ITS SOURCE	: 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 AND REFERENCE TO ITS SOURCE	: Not available.

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

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

Additional good practice advice beyond the REACH CSA

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