Safety Data Sheet
According to REACH Regulation 1907/2006/EC and Regulation (EU) 2015/830

Revision Number: K-5-EN	Revision Date: 13-03-2018

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name: Calcium nitrate (anhydrous)
Chemical name: Calcium nitrate
Synonyms: Calcium Nitrate Premium Anhydrous, Calcium nitrate concentrated, Calcium nitrate concentrated with magnesium, Calcium nitrate (anhydrous), Solar-CalNit, Mixture of calcium nitrate and ammonium nitrate
CAS number: 10124-37-5
EC number: 233-332-1
REACH Registration number: 01-2119495093-35-0028.

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

Intended uses:
Calcium nitrate concentrated, Calcium nitrate (anhydrous) – fertilizer
Calcium Nitrate Premium Anhydrous – intended for use in oil industry, building industry and other branches of industry.

Uses advised against: No.

1.3. Details of the supplier of the safety data sheet

Manufacturer:
Uralchem, JSC
Presnenskaya Naberezhnaya 6 bldg. 2
Moscow, 123112, Russia

KCKK Branch of Uralchem JSC in Kirovo-Chepetsk
Pozharniy Pereulok 7, Kirovo-Chepetsk,
Kirov Oblast, 613040, Russia,
Tel.: +7 (83361) 9-42-24
Email: marketing@uralchem.com

Only representative:
Uralchem Assist GmbH

Johannssenstrasse 10,
Hannover, 30159, Germany
Tel.: + 49 511 45 99 445
Email: info@uralchem-assist.com

E-Mail address for the competent person responsible for the safety data sheet: reach@uralchem.com

1.4. Emergency telephone number

+44 (0) 203 394 9870 (24/7)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to REGULATION (EC) No 1272/2008 on classification, labeling and packaging (CLP):
Oxidising Solid, Category 3, H272.
Acute Toxicity (oral), Category 4, H302.
Eye Damage, Category 1, H318.

2.2. Label Elements

DANGER

Hazard statements:

H272: May intensify fire; oxidiser.
H302: Harmful if swallowed.
H318: Causes serious eye damage.

Precautionary statements:
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220: Keep away from clothing and other combustible materials.
P370+P378: In case of fire: Use water to extinguish.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P330: Rinse mouth.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P501: Dispose of contents / container in accordance with national legislation and any regional / local requirements, preferably via a licensed contractor. Disposal to the sewer should be avoided.

2.3. Other hazards

PBT/vPvB: not relevant (inorganic)

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance:

Chemical name: Calcium nitrate.

EC number	CAS number	Name	Concentration (wt %)	Classification Regulation (EC) 1272/2008	Specific concentration limits and M-factor	REACH Registration number
233-332-1	10124-37-5	Calcium nitrate (anhydrous)	min 96	Oxidising Solid 3, H272 Acute Toxicity 4, H302 Eye Damage 1, H318	--	01-2119495093-35-0028
229-347-8	6484-52-2	Ammonium nitrate	≤1.7%	Oxidising Solid 3, H272 Eye irritation 2, H319	> 80 %— <= 100% Eye Irritation 2, H319	01-2119490981-27-0019

3.2. Mixture: not applicable.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

4.1.1. General information:
In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

4.1.2. Following inhalation:
In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Get medical advice/attention if you feel unwell.

4.1.3. After skin contact:
After contact with skin, wash immediately with plenty of water and soap.
Get medical advice/attention if you feel unwell

4.1.4. Following eye contact:
In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding

eyelids apart. Subsequently consult an ophthalmologist.

4.1.5. After ingestion:
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.
Give activated carbon, in order to reduce the resorption in the gastro-enteric tract.

4.1.6. Self-protection of the first aider:
First aid assistant: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

Following symptoms can occur:
Eye irritation (redness).
Ingestion: abdominal pain, confusion, convulsions, dizziness, headache, nausea, unconsciousness

4.3. Indication of any immediate medical attention and special treatment needed

Get medical advice/attention if you feel unwell.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:
Water spray.

Extinguishing media which must not be used for safety reasons:
Dry extinguishing powder.
Foam.
Sand.
Water steam.

5.2. Special hazards arising from the substance or mixture

Fire Hazard Class: E (non-combustible).
Enhances of other substances, keep away from combustible materials.
Hazardous thermal decomposition and combustion products oxides of nitrogen.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical resistant suit.
Rubber boots.
Rubber gloves.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Remove all sources of ignition.
Provide adequate ventilation.
Technical ventilation of workplace.

6.2. Environmental precautions

Do not empty into drains or the aquatic environment.

6.3. Methods and material for containment and cleaning up

Remove mechanically, placing in appropriate containers for disposal.
Ventilate affected area.

6.4. Reference to other sections

See protective measures under point 7 and 8.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Information for safe handling:
Keep away from heat and precaution to avoid mixing with combustible materials, reducing agents, alkalies and metals. No smoking.
Only use material in places where open light, fire and other sources of ignition can be kept away.
Wear personal protection equipment.
Technical ventilation of workplace.

7.2. Conditions for safe storage, including any incompatibilities

Separated from" foodstuffs.
Store in a cool dry place.
Keep storage area clean.
Packaging materials (bags): polyethylene, polypropylene.
When the packed product is stored in stacks, the stack height must not exceed 2.5 m.

7.3. Specific end use(s)

Intended for use in the agricultural sector, as a fertilizer, in oil industry, building industry and other branches of industry.

See Annex I

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Calcium nitrate (anhydrous):

DN(M)EL for workers :				
Exposure pattern	**Route**	**DNEL/DMEL**	**(Corrected) dose descriptor**	**Most sensitive endpoint**
Long-term - systemic effects	Dermal (mg/kg bw/day)	13,9	NOAEL: 1000.8 mg/kg bw/day (based on AF of 72)	repeated dose toxicity
	Inhalation (mg/m^3)	98,0	NOAEC: 1764.0 mg/m³ (based on AF of 18)	repeated dose toxicity

DN(M)ELs for general population:				
Exposure pattern	**Route**	**DNEL/DMEL**	**(Corrected) dose descriptor**	**Most sensitive endpoint**
Long-term - systemic effects	Dermal (mg/kg bw/day)	8,33	NOAEL: 999.60 mg/kg bw/day (based on AF of 120)	repeated dose toxicity
	Inhalation (mg/m^3)	29	NOAEC: 870 mg/m³ (based on AF of 30)	repeated dose toxicity
	Oral (mg/kg bw/day)	8,33	NOAEL: 999.60 mg/kg bw/day (based on AF of 120)	repeated dose toxicity

PNEC		Assessment factor	Remarks/Justification
PNEC aqua (freshwater): (mg/l)	0,45	1000	Extrapolation method: assessment factor
PNEC aqua (marine water): (mg/l)	0,045	10000	Extrapolation method: assessment factor
PNEC aqua (intermittent releases): (mg/l)	4,5	100	Extrapolation method: assessment factor
PNEC sewage treatment plant (mg/l)	18	10	Extrapolation method: assessment factor

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate ventilation.
Provide extract ventilation to points where emissions occur.

8.2.2. Individual protection measures, such as personal protective equipment

Respiratory protection: personal protective equipment.
Hand protection: rubber gloves.
Eye protection: safety goggles.
Skin protection: normal working clothes
General protection and hygiene measures:
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.

8.2.3. Environmental exposure controls

Do not empty into drains or the aquatic environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance (physical state and colour):	Solid, granulated. Color: from white to grayish-yellow.

Odour :	Odorless.
Odour threshold:	Not determined.
pH:	6.0 (5% solution).
Melting point/freezing point:	c.a. 560 °C (Calcium nitrate).
Initial boiling point and boiling range:	Not applicable (solid, melting point > 300 ºC).
Flash point:	Not applicable (solid, inorganic).
Flammability (solid, gas):	Non flammable (based on structure).
Upper/lower flammability or explosive limits:	Not applicable (non-flammable).
Explosive properties:	Non explosive (based on structure).
Oxidising properties:	Oxid. Solid, Category 3, H272: May intensify fire; oxidiser.
Vapour pressure:	Not applicable (melting point > 300 ºC).
Relative density:	2.5 (Calcium nitrate).
Solubility:	No data available (not required by REACH).
Water solubility:	>10 000 mg/L (Calcium nitrate).
Partition coefficient: n-octanol/water:	Not applicable (inorganic).
Viscosity:	Not applicable (solid).
Vapour density:	No data available (not required by REACH).
Evaporation rate:	No data available (not required by REACH).

Auto-ignition temperature:	Not applicable (based on structure).
Decomposition temperature:	No data available (not required by REACH).

9.2. Other information

Organic peroxide: Based on the available data, the classification criteria are not met.
Self-heating: Based on the available data, the classification criteria are not met.
Pyrophoric solid: Based on the available data, the classification criteria are not met.
Corrosive to metals: No data available.
Substance which in contact with water emits flammable gases: Based on the available data, the classification criteria are not met.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

See section 10.5.

10.2. Chemical stability

Not hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

As the solid calcium nitrate it decomposes on heat and enhances combustion of other substances, it has potential explosion hazard under fire conditions when severely confined and/or contaminated with combustible materials.

10.4. Conditions to avoid

Pollution by incompatible substances.
Atmosphere influence.
Heat sources.
Welding of the equipment contaminated.

10.5. Incompatible materials

Combustible materials and reducing agents.

10.6. Hazardous decomposition products

Nitrogen oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

There is not any relevant information for the product and only a few data available for calcium nitrate as substance, but the toxicological data for other nitrates can used as read across value (RA: read across)

11.1.1. acute effects (acute toxicity, irritation and corrosivity):

11.1.1.1. LD50 oral	Calcium nitrate tetrahydrate : >300 <2000 mg/kg bw (rat) OECD 423, EU B.1, EPA OPPTS 870.1100 Acute Tox. 4: Harmful if swallowed.
11.1.1.2. LD50 dermal	Nitcal/K (potassium pentacalcium nitrate decahydrate): > 2000 mg/kg bw (rat) OECD 402
11.1.1.3. LD50 inhalation	No data available.
11.1.1.4. Skin corrosion /irritation	Ammonium nitrate: Not irritating (rabbit) Equivalent OECD 404
11.1.1.5. Serious eye damage/irritation	Calcium nitrate tetrahydrate: Eyes - Severe irritant (rabbit, 24-72 h, 3 d) OECD 405, EU B.5, EPA OPPTS 870.2400

	Eye Damage 1, H318: Causes serious eye damage.
11.1.1.6. Specific target organ toxicity – single exposure:	Based on the available data, the classification criteria are not met.

11.1.2. Sensitisation:

Respiratory sensitisation: No data available
Skin sensitisation: Sodium nitrate: Not sensitizing (mouse)
(OECD 429, EU B.42, EPA OPPTS 870.2600)

11.1.3. Repeated dose toxicity:

Nitcal/K (potassium pentacalcium nitrate decahydrate):
Specific target organ toxicity – repeated exposure: Based on the available data, the classification criteria are not met.
Oral (28 days)
NOAEL = 150 mg/kg bw (rat).
OECD 407, EU B.7

11.1.4. CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):

Carcinogenicity: No data available

Mutagenicity: Based on the available data, the classification criteria are not met.
CN-Nitcal shows no mutagenic effect (OECD 471, OECD 476, OECD 473).

Reproductive toxicity: Based on the available data, the classification criteria are not met.

Product / ingredient name	General toxicity	Reproduction /developmental toxicity	Species	Actual dose	Exposure
Potassium nitrate:	1500 mg/kg	1500 mg/kg	Rat	Oral: 1500 mg/kg	53 days

OECD 422

Reproductive toxicity, effects on or via lactation: No data available.

11.1.5. Aspiration hazard:	
No data available	
SECTION 12. ECOLOGICAL INFORMATION	
12.1. Toxicity	
There is not any relevant information for the product and calcium nitrate as substance, but the toxicological data for other nitrates can used as read across value (RA: read across)	
Acute toxicity to fish	
LC50	Potassium sodium nitrate: Species: *Fish Oncorhynchus mykiss* > 98,9 mg/L (96 h) (freshwater) OECD 203 Potassium nitrate: Species: *Fish Poecilia reticulata* 1378 mg/L (96 h) (freshwater) Equivalent to OECD 203
Chronic toxicity to fish	
NOEC	No data available
Acute toxicity to crustaceans	
EC50	Potassium nitrate: Species: *Daphnia* > 490 mg/L(300 mg NO_3/L) (48 h) (Freshwater)
Chronic toxicity to crustaceans	
NOEC	No data available
Acute toxicity to algae and other aquatic plants	

LC50	Potassium nitrate: Species: Aquatic plants > 1700 mg/L (10 days) (saltwater)
Toxicity data on soil micro- and macro-organisms and other environmentally relevant organisms, such as birds, bees and plants	
No data available	
12.2. Persistence and degradability	
Readily biodegradable	Not applicable (inorganic). Readily biodegradable in plants and soils (nitrates).
Other relevant information	In aqueous solution, the substance is dissociated.
12.3. Bioaccumulative potential	
Experimental BCF	Not applicable (low bioaccumulation potential).
Log Pow	Not applicable (inorganic).
12.4. Mobility in soil	
Low adsorption potential. This product may move with surface or groundwater flows because its water solubility is: > 10 000 mg/l.	
12.5. Results of PBT and vPvB assessment	
PBT/vPvB: Not relevant (inorganic).	
12.6. Other adverse effects	
No data available	

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

This product and its packaging must be disposed of in a safe way. Generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional or local authority requirements.

13.1.1. Product

Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer but processed in a suitable effluent treatment plant. Depending on the degree and nature of the contamination, dispose of it as fertilizer on the field, as a raw material or in an authorized waste facility. Incineration or landfill should only be considered when recycling is not feasible. European waste catalogue (EWC) waste code 06 10 02 - wastes containing dangerous substances.

13.1.2. Packaging

Empty containers or liners may contain product residues. Packages should be emptied and can be recycled after thorough cleansing. If approved by local authorities, empty containers may be disposed of as non-hazardous material or returned for recycling.

SECTION 14. TRANSPORT INFORMATION

14.1. UN number:	1454
14.2. UN proper shipping name:	CALCIUM NITRATE
14.3. Transport hazard class:	5.1
14.4. Packing group:	III
14.5. Environmental hazards:	The substance is ecologically safe. As to the influence on sea environment cargo is related to harmless pollutants.

14.6. Special precautions for user

Not relevant

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not relevant.

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 2003/2003 of the European Parliament and of the council of 13 October 2003, relating to fertilizers.

Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy.

Council Directive 91/676/EEC concerning the Protection of Waters against Pollution caused by Nitrates from Agricultural Sources.

15.2. Chemical safety assessment

Chemical Safety Assessment has been carried out for the substance: Calcium nitrate.

SECTION 16. OTHER INFORMATION

Indication of changes:

Revision № K-5-EN of 13-03-2018:
Section 13.1, 13.1.1 and 13.1.2: Adding information on Disposal considerations.

Revision № K-4-EN of 19-02-2017:
Section 7.2.: Adding information of storage instruction.

Revision № K-3-EN of 18-01-2016:
Section 1.3: Change of Manufacturer's name.
Section 2.1: Classification per Directive 67/548/EEC deleted as no longer applicable, effective 1 June 2015.
Section 3: Classification per Directive 67/548/EEC deleted as no longer applicable, effective 1 June 2015.
Section 16: Classification per Directive 67/548/EEC deleted as no longer applicable, effective 1 June 2015.

Exposure scenario attached for calcium nitrate.

Abbreviations:
DNEL: Derived No-Effect Level
PNEC: Predicted No-Effect Concentration
NOAEL: No Observed Adverse Effect Level
NOEC: No observed effect concentration.
LD50: Lethal Dose 50%. The LD50 corresponds to the dose of a tested substance causing 50% lethality during a specified time interval.
LC50: Lethal Concentration 50%. The LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval.
EC50: Effective Concentration 50%. The EC50 corresponds to the concentration of a tested substance causing 50% changes in response (e.g. on growth) during a specified time interval.
BCF: Bioconcentration factor
PBT: Persistent, bioaccumulative and toxic
vPvB: Very Persistent and very Biaoccumulative

ANNEX I

Exposure Scenario: Calcium Nitrate.

1.- Title of exposure scenario number 1: Manufacture of substance
SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites *SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)* *SU9: Manufacture of fine chemicals*
ERC1: Manufacture of substances
PROC1: Use in closed process, no likelihood of exposure *PROC2: Use in closed, continuous process with occasional controlled exposure* *PROC3: Use in closed batch process (synthesis or formulation)* *PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities* *PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation.* *PROC15: Use as laboratory reagent*
2.- Exposure scenario
2.1.- Contributing scenario controlling environmental exposure for ERC 1
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
2.2.- Contributing scenario controlling worker exposure for PROC1, 2, 3, 8b, 14 y 15.
Product characteristics
Solid, low dustiness.
Amounts used
Not applicable.
Frequency and duration of use
> 4 h/day
Human factors not influenced by risk management
Not applicable.
Other given operational conditions affecting workers exposure
Indoor.
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
Effectiveness of containment. Provide adequate ventilation
Organisational measures to prevent /limit releases, dispersion and exposure
Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemical resistant protective eye glasses
3.- Exposure estimation and reference to its source

Number of the contributing scenario 1
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
Number of the contributing scenario 2
Exposure assessment (human): Qualitative approach used to conclude safe use: Serious eye damage/eye irritation.
Guidance to DU to evaluate whether he works inside the boundaries set by the ES
No additional risk management measures required.
5.- Additional good practice advice beyond the REACH CSA
Minimise number of staff exposed. Segregate the activity away from other operations. Provide extract ventilation to points where emissions occur.. Automate activity where possible.. Avoid manual contact with wet work pieces. Clean equipment and the work area every day. Operational conditions and risk management measures. Ensure operatives are trained to minimise exposures. General protection and hygiene measures

1.- Title of exposure scenario number 2: Industrial use. Formulation of preparations (mixtures). Use as an intermediate. End-use of chemical products.
SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites *SU10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)* *PC4/9a/11/12/14/16/20/21/34/35/37/39*
ERC2: Formulation of preparations (mixtures) *ERC4: Industrial use of processing aids in processes and products, not becoming part of articles* *ERC5: Industrial use resulting in inclusion into or onto a matrix* *ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)* *ERC6b: Industrial use of reactive processing aids* *ERC 6d:Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers* *ERC7: Industrial use of substances in closed systems*
PROC1: Use in closed process, no likelihood of exposure *PROC2: Use in closed, continuous process with occasional controlled exposure* *PROC3: Use in closed batch process (synthesis or formulation)* *PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises* *PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)* *PROC7: Industrial spraying* *PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities* *PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities* *PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)* *PROC10: Roller application or brushing*

PROC13: Treatment of articles by dipping and pouring *PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation* *PROC15: Use as laboratory reagent*
2.- Exposure scenario
2.1.- Contributing scenario controlling environmental exposure for ERC2, 4, 5, 6a, 6b, 6d, 7
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
2.2.- Contributing scenario controlling worker exposure for PROC1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 14 y 15
Product characteristics
Solid, low dustiness. Liquid, >25% Concentration of substance in product
Amounts used
Not applicable.
Frequency and duration of use
> 4 h/day
Human factors not influenced by risk management
Not applicable.
Other given operational conditions affecting workers exposure
Indoor.
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
Effectiveness of containment. Provide adequate ventilation
Organisational measures to prevent /limit releases, dispersion and exposure
Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemical resistant protective eye glasses
3.- Exposure estimation and reference to its source
Number of the contributing scenario 1
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
Number of the contributing scenario 2
Exposure assessment (human): Qualitative approach used to conclude safe use: Serious eye damage/eye irritation.
4.- Guidance to DU to evaluate whether he works inside the boundaries set by the ES
No additional risk management measures required.
5.- Additional good practice advice beyond the REACH CSA
Minimise number of staff exposed. Segregate the activity away from other operations. Provide extract ventilation to points where emissions occur..

Automate activity where possible..
Avoid manual contact with wet work pieces.
Clean equipment and the work area every day.
Operational conditions and risk management measures.
Ensure operatives are trained to minimise exposures.
General protection and hygiene measures
See attached safety data sheets and/or usage instructions.

1.- Title of exposure scenario number 3: Professional use. Formulation of preparations (mixtures). End-use of chemical products.

SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
PC4/12/14/16/20/21/35

ERC8a: Wide dispersive indoor use of processing aids in open systems
ERC8b: Wide dispersive indoor use of reactive substances in open systems
ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8d: Wide dispersive outdoor use of processing aids in open systems
ERC8e: Wide dispersive outdoor use of reactive substances in open systems
ERC9a: Wide dispersive indoor use of substances in closed systems
ERC9b: Wide dispersive outdoor use of substances in closed systems

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
PROC15: Use as laboratory reagent
PROC20: Heat and pressure transfer fluids in dispersive use but closed systems

2.- Exposure scenario

2.1.- Contributing scenario controlling environmental exposure for ERC8a, 8b, 8c, 8d, 8e, 9a, 9b

Environmental hazard assessment: Not applicable.
The substance does not meet the criteria for being classified as dangerous for the environment.

2.2.- Contributing scenario controlling worker exposure for PROC 1, 2, 5, 8a, 8b, 9, 10, 11, 15 y 20

Product characteristics

Solid, low dustiness.
Liquid, >25% Concentration of substance in product

Amounts used

Not applicable.

Frequency and duration of use

> 4 h/day
Human factors not influenced by risk management
Not applicable.
Other given operational conditions affecting workers exposure
Indoor.
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
Effectiveness of containment. Provide adequate ventilation Avoid splashing. Use drum pumps or carefully pour from container.
Organisational measures to prevent /limit releases, dispersion and exposure
Not applicable.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear chemical resistant protective eye glasses
3.- Exposure estimation and reference to its source
Number of the contributing scenario 1
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
Number of the contributing scenario 2
Exposure assessment (human): Qualitative approach used to conclude safe use: Serious eye damage/eye irritation.
4.- Guidance to DU to evaluate whether he works inside the boundaries set by the ES
No additional risk management measures required.
5.- Indicaciones adicionales como buenas prácticas
Minimise number of staff exposed. Segregate the activity away from other operations. Provide extract ventilation to points where emissions occur.. Automate activity where possible.. Avoid manual contact with wet work pieces. Clean equipment and the work area every day. Operational conditions and risk management measures. Ensure operatives are trained to minimise exposures. General protection and hygiene measures See attached safety data sheets and/or usage instructions.

1.- Title of exposure scenario number 4: Consumer use. Fertilizers. Other products.
SU21: Consumer uses: Private households (= general public = consumers)
ERC8a: Wide dispersive indoor use of processing aids in open systems *ERC8b: Wide dispersive indoor use of reactive substances in open systems* *ERC8d: Wide dispersive outdoor use of processing aids in open systems* *ERC8e: Wide dispersive outdoor use of reactive substances in open systems*

ERC10a: Wide dispersive outdoor use of long-life articles and materials with low release
PC4: Anti-freeze and de-icing products *PC12: Fertilizers* *PC35: Washing and cleaning products (including solvent based products)* *PC39: Cosmetics, personal care products*
2.- Exposure scenario
2.1.- Contributing scenario controlling environmental exposure for ERC8a, 8b, 8e, 8d y 10a
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
2.2.- Contributing scenario controlling worker exposure for PC4, 12, 35 y 37
Product characteristics
Solid, low dustiness. Liquid.
Amounts used
Not applicable.
Frequency and duration of use
Not applicable.
Human factors not influenced by risk management
Not applicable.
Other given operational conditions affecting workers exposure
Indoor / Outdoor.
Conditions and measures related to information and behavioural advice to consumers
Avoid splashing
Conditions and measures related to personal protection and hygiene
Wear chemical resistant protective eye glasses Instructions addressed to the consumer via product labelling
3.- Exposure estimation and reference to its source
Number of the contributing scenario 1
Environmental hazard assessment: Not applicable. The substance does not meet the criteria for being classified as dangerous for the environment.
Number of the contributing scenario 2
Exposure assessment (human): Qualitative approach used to conclude safe use: Serious eye damage/eye irritation.
4.- Guidance to DU to evaluate whether he works inside the boundaries set by the ES
No additional risk management measures required.