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1.1 29.06.2016 : 2.0

SAFETY DATA SHEET

NUTREL C

Section 1. Identification

Product identifier Product type Product code	: : :	NUTREL C solid (Powder) PYPA7W
<u>Uses</u> Area of application Material uses	:	Professional applications Fertilizers.
<u>Supplier</u> Supplier's details	:	Yara Iberian S.A.
Address Street	:	Infanta de las Mercedes st. 2nd floor
Number Postal code City Country		31 28020 Madrid Spain
Telephone number Fax no. e-mail address of person responsible for this SDS Emergency telephone number (with hours of operation)		+34 91 42 63 500 +34 91 745 18 88 yaraiberian@yara.com +34 9 1114 2520, +351 30 880 4750 (digite 1) (7/24)
<u>National advisory body/Poison</u> <u>Center</u>	:	Not available.

Section 2. Hazards identification

Classification and labelling have been performed following the guidelines and recommendation of GHS and the intended use.

Classification of the	1	ACUTE TOXICITY (oral) - Category 5
substance or mixture.		SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
		TOXIC TO REPRODUCTION (Fertility) - Category 1B
		TOXIC TO REPRODUCTION (Unborn child) - Category 1B
		SPECIFIC TARGET ORGAN TOXICITY (REPEATED
		EXPOSURE) (brain) - Category 2
		AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	÷	H303 H318 H360 H373 H412	May be harmful if swallowed. Causes serious eye damage. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary statements			
Prevention	:	P202 P280-d P273	Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing and eye/face protection. Avoid release to the environment.
Response	:	P308 P313-a P305 P351 P338 P310	IF exposed or concerned: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Other hazards which do not : None. result in classification

Section 3. Composition/information on ingredients

Substance/mixture

: Mixture

Ingredient name	CAS number	%
tetrasodium ethylene diamine tetraacetate	64-02-8	>= 15 - < 20
manganese sulphate, monohydrate	10034-96-5	>= 5 - < 7
disodium octaborate	12280-03-4	>= 3 - < 5
disodium [[N,N'-ethylenebis[N- (carboxymethyl)glycinato]](4-)- N,N',O,O',ON,ON']cuprate(2-)	14025-15-1	>= 1 - < 2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier

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and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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

Remark

: This product contains Boron (see section 7 and 11).

Section 4. First aid measures

Description of necessary first aid measures

Description of necessary mist a	ume	5434163
Eye contact	:	Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Check for and remove any contact lenses. Get medical attention immediately.
Inhalation	:	If inhaled, remove to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.
Skin contact	:	Wash with soap and water. Continue to rinse for at least 10 minutes. Get medical attention if irritation develops. Get medical attention following exposure or if feeling unwell.
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 you feel unwell.
Most important symptoms/effec	ts, ad	cute and delayed
Potential acute health effects		
Eye contact Inhalation	:	Causes serious eye damage. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Skin contact	1	No known significant effects or critical hazards.
Ingestion	:	May be harmful if swallowed. May cause burns to mouth, throat and stomach.
Over-exposure signs/sympton	ns	
Eye contact	:	Adverse symptoms may include the following: pain watering redness
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	Adverse symptoms may include the following: stomach pains
Indication of immediate medical	atte	ntion and special treatment needed, if necessary
Notes to physician	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	No specific treatment.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained
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breathing apparatus. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media Suitable extinguishing media Unsuitable extinguishing media Specific hazards arising from the chemical	:	Use an extinguishing agent suitable for the surrounding fire. None identified. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	:	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides Avoid breathing dusts, vapors or fumes from burning materials. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
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.
Remark	:	None.

Section 6. Accidental release measures

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. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
For emergency responders	:	If specialized 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".
Environmental precautions	:	Avoid dispersal of spilled 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill	:	Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	:	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling		
Protective measures Advice on general occupational hygiene	:	Put on appropriate personal protective equipment (see Section 8). Do not handle until all safety precautions have been read and understood. As a precaution, keep exposure as low as possible for pregnant women, children and workers in reproductive age. Avoid dust generation. Do not breathe dust. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. 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
Conditions for safe storage, including any incompatibilities	:	for additional information on hygiene measures. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well- ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed
Specific recommendations to	:	and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not generate and inhale liquid fertilizer aerosols.
end users	-	In addition to overalls, gloves and eye protection, use of efficient respiratory protection (P2/P3 respirators with a tight face seal) during discharge of fertilizer bags and maintenance of equipment is recommended to minimize inhalation
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exposure and to ensure safe-use during this activity (see section 8).

Risk assessments show safe use during normal spreading of fertilizers containing below 5% of boron by tractor (liquid or granular) and backpack (liquid).

Section 8. Exposure controls/personal protection

Control parameters		
Occupational exposure limits	:	None.
Appropriate engineering controls	:	If user operations generate dust, fumes, gas, vapor 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.
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.
Individual protection measures		
Hygiene measures	:	A washing facility or water for eye and skin cleaning purposes should be present. 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. Recommended: Tightly-fitting goggles
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. For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. > 8 hours (breakthrough time): Protective gloves should be worn under normal conditions of use.
Body protection	:	Personal protective equipment for the body should be selected
Other skin protection	:	based on the task being performed and the risks involved. 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
Respiratory protection	:	specialist before handling this product. Use respiratory protection with more than 94% efficiency (P2, P3 or N95) and a tight face seal, when risk of exposure to
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Personal protective equipment : (Pictograms)



Section 9. Physical and chemical properties

<u>Appearance</u>		
Physical state	10	solid [Powder]
Color	10	Yellow.Brown.
Odor	10	Not determined.
Odor threshold	10	Not determined.
рН	10	Not determined.
Melting/freezing point	10	Not determined.
Boiling/condensation point	10	Not determined.
Sublimation temperature	10	Not determined.
Flash point	10	Not determined.
Fire point	10	Not determined.
Evaporation rate	10	Not determined.
Flammability (solid, gas)	1.1	Non-flammable.
Lower and upper explosive	11	Lower: Not determined.
(flammable) limits		Upper: Not determined.
Vapor pressure	11	Not determined.
Relative density	10	Not determined.
Solubility	10	Not determined.
Partition coefficient: n-	10	Not determined.
octanol/water		
Auto-ignition temperature	10	Not determined.
Decomposition temperature	10	Not determined.
Viscosity	10	Dynamic: Not determined.
	1.1	Kinematic: Not determined.
Explosive properties	10	None.
Oxidizing properties	1	None

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Avoid contamination by any source including metals, dust and organic materials.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingre	Result	Species	Dose	Exposure	References			
dient name								
tetrasodium ethy	ylene diamine tetr	aacetate						
	LD50 Oral	Rat	1.780 mg/kg	Not	IUCLID			
			OECD 401	applicable.				
manganese sulp	ohate, monohydra	te						
	LD50 Oral	Rat	2.150 mg/kg	Not	IUCLID 5			
				applicable.				
disodium octabo	orate	•	•					
	LD50 Oral	Rat	2.550 mg/kg	Not				
				applicable.				
	LC50	Rat	> 2 mg/l	Not				
	Inhalation		_	applicable.				
	LD50 Dermal	Rabbit	> 2.000 mg/kg	Not				
				applicable.				
disodium [[N,N'-	disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-)							
	LD50 Oral	Rat	890 mg/kg	Not	IUCLID 5			
			OECD 403	applicable.				
	LC50	Rat	> 5,32 mg/l	4 h	IUCLID 5			
	Inhalation							
	Dusts and							
	mists							
	LD50 Dermal	Rat	> 5.000 mg/kg	Not	IUCLID			
			OECD 402	applicable.				

Conclusion/Summary

: May be harmful if swallowed.

Irritation/Corrosion

Product/ingred ient name	Result	Species	Score	Exposure	Observation	References
manganese sulphate, monohydrate	Eyes - Severe irritant	Rabbit	Not applic able.		Not applicable.	

Conclusion/Summary

Skin	:	No known significant effects or critical hazards.
Eyes	:	Causes serious eye damage.
Respiratory	:	No known significant effects or critical hazards.
Sensitization		
Conclusion/Summary Skin Respiratory	:	No known significant effects or critical hazards. No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary	:	No known significant effects or critical hazards.
Carcinogenicity		
Conclusion/Summary	:	No known significant effects or critical hazards.
Reproductive toxicity		
Conclusion/Summary	:	May damage fertility. May damage the unborn child.

Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

Specific target organ toxicity (repeated exposure)

Product/ingredient	Category	Route of exposure	Target organs
name			
manganese sulphate, monohydrate	Category 2	inhalation	brain
manganese sulphate, monohydrate	Category 2	inhalation	brain

Aspiration hazard

No known significant effects or critical hazards.

Information on the likely routes of exposure	:	Not available.		
Potential acute health effects				
Eye contact Inhalation	:	Causes serious eye damage. May give off gas, vapor or dust that is very irritatin corrosive to the respiratory system.	g or	
Skin contact Ingestion	:	No known significant effects or critical hazards. May be harmful if swallowed. May cause burns to mouth throat and stomach.		
Symptoms related to the physic	al, c	hemical and toxicological characteristics		
Eye contact	:	Adverse symptoms may include the following: pain watering redness		
Inhalation	:	No specific data.		
Skin contact	:	No specific data.		
Ingestion	:	Adverse symptoms may include the following: stomach pains		
Delayed and immediate effects	and	also chronic effects from short and long term ex	posure	
Short term exposure				
Potential immediate effects	:	Not available.		
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Potential delayed effects	:	Not available.
<u>Long term exposure</u> Potential immediate effects Potential delayed effects	:	Not available. Not available.
Potential chronic health effects		
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Fertility effects	:	May damage fertility.
Developmental effects	:	May damage the unborn child.
Effects on or via lactation	:	No known significant effects or critical hazards.
Other effects	:	May cause damage to organs through prolonged or repeated exposure.
<u>Over-exposure signs/symptoms</u> Eye contact	:	Adverse symptoms may include the following: pain watering redness
Inhalation	:	No specific data.
Skin contact	:	No specific data.
Ingestion	:	Adverse symptoms may include the following: stomach pains

Numerical measures of toxicity

Acute toxicity estimates	
Route	ATE value
Oral	2.644 mg/kg
Route	ATE value
Dermal	79.872,2 mg/kg
Route	ATE value
Inhalation (vapors)	70,15 mg/l

Section 12. Ecological information

Toxicity							
Product/ingredient	Result	Species	Exposure	References			
name							
tetrasodium ethylene diamine tetraacetate							
	Acute LC50 486 mg/l Fresh water	Bluegill	4 d	Bull.Environ.Conta m.Toxicol. 24(4):543-549			
manganese sulphate, mo	nohydrate						
	Acute LC50 3,2 -	Fish.	96 h	IUCLID 5			

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	14 mg/l Fresh water Fish, Acute Toxicity Test			
	Chronic NOEC > 0,55 mg/l Fresh water	Fish	65 d	IUCLID 5
disodium octaborate				
	Acute LC50 350 mg/l	Fish	96 h	
	Acute EC50 2.530 mg/l	Water flea	48 h	
	Acute LC10 115 mg/l Fresh water	Algae	96 h	
disodium [[N,N'-ethyleneb	is[N-(carboxymethyl)gl	lycinato]](4-)-N,N'	,0,0',0N,0N']cu	iprate(2-)
	Acute LC50 555 mg/I OECD 203	Fish	96 h	IUCLID 5
	Acute EC50 100,9 mg/I OECD 202	Daphnia	48 h	IUCLID 5

Conclusion/Summary

: Harmful to aquatic life with long lasting effects.

Persistence and degradability

Product/ingredient Aquatic half-life		Photolysis	Biodegradability			
name						
disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-)						
	Not applicable.	Not applicable.	Inherent			

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

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
tetrasodium ethylene diamine	5,01	Not applicable.	high
tetraacetate			
disodium octaborate	-0,757	Not applicable.	low
disodium [[N,N'-	< 0	Not applicable.	low
ethylenebis[N-			
(carboxymethyl)glycinato]](4-			
)-			
N,N',O,O',ON,ON']cuprate(2-			
)			

Conclusion/Summary

: No known significant effects or critical hazards.

Mobility in soil		
Soil/water partition coefficient (KOC)	:	Not available.
Mobility	:	Not available.
Other adverse effects	:	No known significant effects or critical hazards.

Section 13. Disposal considerations

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Product Methods of disposal

The 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 local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulation: UN Class	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.
14.5 Environmental hazards	No.
Additional information Environmental hazards	: No.

Regulation: IMDG		
14.1 UN number	Not regulated.	
14.2 UN proper shipping name	Not applicable.	
14.3 Transport hazard class(es)	Not applicable.	
14.4 Packing group	Not applicable.	
14.5 Environmental hazards	No.	
Additional information		
Marine pollutant	: Not available.	

Regulation: IATA	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
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14.4 Packing group	Not applicable.
14.5 Environmental hazards	No.
Additional information	·
Marine pollutant	: No.
14.6 Special precautions for user	 Transport within user's premises: Ensure that persons transporting the product know what to do in the event of an accident or spillage.
<u>IMSBC</u> Bulk cargo shipping name Class Group Marpol V	 FERTILIZERS WITHOUT NITRATES Not applicable. C HME
<u>Transport in bulk according to</u> <u>Annex II of MARPOL and the</u> <u>IBC Code</u>	: Not applicable.

Section 15. Regulatory information

Inventory list

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Australia inventory (AICS): All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
EC INVENTORY (EINECS/ELINCS): All components are listed or exempted.

Section 16. Other information

Key to abbreviations	:	ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor bw = Body weight GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) NOHSC - National Occupational Health and Safety Commission RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail SUSMP - Standard Uniform Schedule of Medicine and Poisons
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UN = United Nations

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 5	Calculation method
SERIOUS EYE DAMAGE/ EYE	Calculation method
IRRITATION - Category 1	
TOXIC TO REPRODUCTION (Fertility) -	Calculation method
Category 1B	
TOXIC TO REPRODUCTION (Unborn child)	Calculation method
- Category 1B	
SPECIFIC TARGET ORGAN TOXICITY	Calculation method
(REPEATED EXPOSURE) (brain) -	
Category 2	
AQUATIC HAZARD (LONG-TERM) -	Calculation method
Category 3	

History

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Date of previous issue	10	29.06.2016
Revision comments	•	The following sections contain new and updated information: 3, 4, 6, 7, 8, 11.
Version	1	2.0
Prepared by	1	Yara Chemical Compliance (YCC).
II Indicates information that has	s ch	anged from previously issued version.

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