GPS Safety Summary

Substance Name:

Aminocal

1. General Statement

Aminocal is a distillation residues product, mixture of by-products issued during the manufacturing of dodecane-12-lactam.
Its composition makes it particularly interesting to prepare formulation of fertilizers.
It is used at industrial settings and by professional workers in agriculture.

2. Chemical Identity

Name:	Aminocal
Chemical name (IUPAC):	dodecane-12-lactam, manufacturing of, by-products from, distillation residues
List number:	923-400-5

3. Use and applications

Due to its concentration in Nitrogen, Aminocal is used in agriculture as an additive to complete formulation of fertilizers.

4. Physical / Chemical properties

Aminocal is a brown/ black solid at room temperature. It has the following physico-chemical properties:

Property	Value
Physical state	Solid at 20°C and 101.3 hPa
Form	Big blocks
Colour	Brown, black
Molecular weight	Not applicable
Density	1.1917 at 20°C
Vapour pressure	0.03 Pa at 20°C
Melting / boiling points	Not applicable: the substance decomposes before melting.
Flash point – flammability	Not applicable – non flammable solid
Self-ignition temperature	Not applicable
Explosive / oxidizing properties	Not expected based on structure
Water solubility	0.613 g/L at 20°C
Octanol-water partition coefficient (Log K_{ow})	3.06 at 20°C

5. Health Effects

No data on toxicokinetics, metabolism and distribution are available. Based on the physicochemical carasteristic of the substance and the complex composition, Aminocal is expected to be well absorbed by the respiratory and gastro-intestinal tracts and through the skin.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	No toxic effects are observed when aminocal is administrated to high concentration by oral inhalation or oral exposure.
Irritation / corrosion Skin / eye/ respiratory tract	Aminocal is not irritant to the skin but may cause serious eyes damage after direct contact.
Sensitisation	Aminocal does not cause skin or respiratory allergy.
Toxicity after repeated exposure Oral / inhalation / dermal	Aminocal does not cause systemic toxicity after repeated dose exposure by oral administration.
Genotoxicity / Mutagenicity	Aminocal does not cause genotoxic defects.
Carcinogenicity	No information is available
Reproductive / Developmental Toxicity	The available information indicates no fertility or developmental defects for Aminocal.

6. Environmental Effects

The potential of aminocal for bioaccumulation is low. This product may persist in the environment. It is harmful to aquatic organisms with long lasting effects.

Effect Assessment	Result
Aquatic Toxicity	Harmful to aquatic life

Fate and behaviour	Result
(Bio)degradation potential	Potentially persistent
Bioaccumulation potential	Not expected to bioaccumulate
PBT / vPvB conclusion	Not considered as PBT* or vPvB**

*: Persistent, Bioaccumulative and Toxic (PBT)
**: very Persistent and very Bioaccumulative (vPvB)

7. Exposure

7.1 Human health

Considering the life cycle of the substance, industrial workers and professional users may come into contact with Aminocal. Exposure of the general population is indirect and is estimated to be very low.

Worker exposure can occur in facilities manufacturing or using the substance. When workers are exposed during handling, loading, sampling or maintenance operations, they should follow the recommended measures given in the extended Safety Data Sheet (eSDS). Given the irritating properties of the substance, special attention should be paid to avoid eye contact. For professional users the low concentration (<10%) of the substance in the final product limits the exposure to the substance.

7.2 Environment

Aminocal will be released in the environment during its final use. Additional emissions of Aminocal to the environment may occur during its production. As Aminocal is not highly adsorptive, its main target compartment in the environment will be the water compartment where it may potentially persist: a risk assessment indicates that there is no risk for the environment.

8. Risk Management recommendations

Human health measures		
Organizational	Implement good basic standards of occupational hygiene. Ensure operatives are well informed of the hazards and trained to minimise exposures. Refer to the latest available extended safety data sheet (eSDS).	
Protection	**Eye/Face protection:**	Safety glasses
	Skin protection:	Protective suit
	Hand protection:	Rubber gloves
	Respiratory protection:	Wear a dust mask (if necessary). In the case of hazardous fumes, wear self contained breathing apparatus.
Engineering controls	Should be handled in well ventilated areas. Ensure sufficient air exchange and/or exhaust in work areas. Ensure that eye- and handwash stations and safety showers are close to workstation locations.	
Environmental protective measures		
Shovel into suitable container for disposal. Sweep up to prevent slipping hazard. Destroy the product by incineration.		

9. Regulatory Information / Classification and Labelling

9.1 Regulatory Information

This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

9.2 Classification and labelling

Under GHS, substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and SDSs. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according to CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification and labelling according to Regulation (EC) n° 1272/2008:

Classification
– Eye Irritation; Category 2 – Aquatic chronic toxicity; Category 3

Signal word	
— Warning	
Pictogram	
— GHS07: exclamation mark	
Labelling hazard statements	
— H319: Causes serious eye irritation. — H412: Harmful to aquatic life with long lasting effects.	

Classification and labelling according to GHS:

Classification	
— Eye Irritation; Category 2 — Acute toxicity (oral); Category 5 — Aquatic chronic toxicity; Category 3 — Aquatic acute toxicity; Category 3	
Signal word	
— Warning	
Pictogram	
— GHS07: exclamation mark	
Labelling hazard statements	
— H319: Causes serious eye irritation. — H303: May be harmful if swallowed. — H412: Harmful to aquatic life with long lasting effects.	

10. Contact Information within Company

For further information on this substance or product safety summary in general, please contact:

— arkema.reach-dpt2@arkema.com

— ICCA portal where the GPS Safety Summary is posted:
http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/

11. Date of Issues / Revision

— Date of issue: 2014/10/31

— Date of revision:

12. Disclaimer

The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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