GPS Safety Summary

Reaction products of 1H-Imidazole-1-ethanol, 4,5-dihydro-, 2-(C7-C17 odd numbered, C17-unsatd. alkyl) derivs. and sodium hydroxide and chloroacetic acid*

(*referred to as "amphoacetates C8-18" in this document to simplify the reading)

Chemical Identity

Brand names	**[None; substance always produced and put on the market in mixtures (aqueous solution)]**	*CAS number(s)**	**68650-39-5** **68608-65-1**
Chemical name (IUPAC)	**Reaction products of 1H-Imidazole-1-ethanol, 4,5-dihydro-, 2-(C7-C17 odd numbered, C17-unsatd. alkyl) derivs. and sodium hydroxide and chloroacetic acid**	*EC List number*	**931-291-0**
Synonyms	**Alkylamidoamine glycinate majority C12, 14 (amphoacetate); Amphoacetates C8-18; Sodium cocoamphoacetate;**	*Molecular formula*	**Not applicable (UVCB substance)**

*Several CAS numbers are covered by this Product Safety Summary. The CAS numbers mentioned here are the ones used by Rhodia.

Applications

Amphoacetates C8-18 are used mainly as mild surfactants in aqueous cosmetic formulations, and to a lesser extent in cleaning and maintenance products for consumer, professional and industrial applications.

Safety Assessment, Exposure and Risk Management Recommendations

Physical and chemical properties

Property	Result
Physical state	Pasty solid at 20°C; markted and used always in aqueous solution (30-50%)
Colour	Aq. solution: Colourless to yellow
Odour	Aq. solution: Slight alcohol odour
Boiling point	Aq. solution: > 100°C
Relative density	Aq. solution: 1.17 at 20°C
Flash point	Aq. solution: No flash point determined
Vapour pressure	Low potential for volatility
Water solubility	Soluble
Octanol water partition	Low potential for bioaccumulation

Health effects

Amphoacetates C8-18 are considered to cause serious damage to eyes and to be slighty irritating to the skin. For industrial uses, stringent safety measures must be observed. For more details, please refer to the Safety Data Sheet.
For consumer applications, they are used in suitable concentrations according to appropriate regulations.

Environmental effects

Amphoacetates C8-18 are toxic to aquatic life. However, as they are readily biodegradable and not potentially bioaccumulable, they are not classified as dangerous for the environment.
Disposal, treatment or recycling must comply with applicable regulations to preserve the environment.

Regulatory information and certifications

Classification and labelling

EU regulation (EC) 1272/2008 (CLP)

Serious eye damage, Cat. 1 H318 Causes serious eye damage.

Danger

Registration and certification

ISO 9001: 2008

EU regulation for chemicals (EC) 1907/2006 (REACH)

GPS Safety Summary

This Product Safety Summary is intended to provide a general overview of the chemical substance in the context of ICCA Global Product Strategy. The information on the Summary is basic information and is not intended to provide emergency response information, medical information or treatment information. The summary should not be used to provide in-depth safety and health information. In-depth safety and health information can be found on the (extended) Safety Data Sheet (e)SDS for the chemical substance.

Reaction products of 1H-Imidazole-1-ethanol, 4,5-dihydro-, 2-(C7-C17 odd numbered, C17-unsatd. alkyl) derivs. and sodium hydroxide and chloroacetic acid*

(*referred to as "amphoacetates C8-18" in this document to simplify the reading)

General Statement

Reaction products of 1H-Imidazole-1-ethanol, 4,5-dihydro-, 2-(C7-C17 odd numbered, C17-unsatd. alkyl) derivs. and sodium hydroxide and chloroacetic acid (referred to as "amphoacetates C8-18" in this document to simplify the reading) is a complex and variable substance (a so-called UVCB substance) consisting mainly of a surfactant part (group of alkyl derivates) derived from coconut oil and sodium chloride. The substance is a pasty orange solid that is manufactured, marketed and used in aqueous solutions (30-50%).

The substance is mainly used as a secondary surfactant (foaming agent) in aqueous cosmetic formulations, and to a lesser extent in cleaning and maintenance products (mainly dishwash and laundry wash products) for both the consumer and the industrial/professional sectors.

Based on available studies the pure substance as well as the aqueous solutions put on the market are considered to be slightly irritating to the skin and to cause serious damage to eyes. Safety conditions of use must be observed for handling in industry, to avoid workers' eye exposure.

Consumers will come in contact with the formulated substance when using, for example, cosmetic, home or personal care products. In such applications amphoacetates C8-18 are formulated in suitable concentrations according to appropriate regulations to ensure safe use in the conditions of use written on the product packaging.

The substance is readily biodegradable and therefore is removed from effluent through waste water treatment plants.

Chemical Identity

Chemical name (IUPAC)	Reaction products of 1H-Imidazole-1-ethanol, 4,5-dihydro-, 2-(C7-C17 odd numbered, C17-unsatd. alkyl) derivs. and sodium hydroxide and chloroacetic acid (= new substance name proposed for the registration in REACH, to cover several previously commonly used CAS/EC numbers)
Brand names:	None; the substance is always produced and put on the market in mixtures (aqueous solutions)

Synonyms:	Alkylamidoamine glycinate majority C12, 14 (amphoacetate); Amphoacetates C8-18**;** Sodium cocoamphoacetate; Disodium cocoamphodiacetate
CAS/EC number(s):	Several CAS/EC numbers are covered by the same REACH registration dossier and this GPS summary (see table below)
Previously used identifiers:	**EINECS:** 272-043-5 269-819-0 269-910-5 263-164-4 291-352-6 271-793-0 **CAS:** 68650-39-5 68334-21-4 68390-66-9 61791-32-0 90387-76-1 68608-65-1
EC List number:	931-291-0
Molecular formula:	Not applicable: a generic molecular formula cannot be provided for this UVCB substance
Structure:	Not applicable: a generic structure cannot be provided for this UVCB substance

Uses and applications

The substance amphoacetates C8-18 is used as mild surfactant for personal care and industrial/professional applications.
In personal care formulations such as shampoos, bubble baths, and body cleansers it foams well and leaves a pleasant feel without de-fatting the skin.
In the industrial/professional sectors it is used for applications such as liquid dish wash and hard surface cleaners.

Physical/Chemical Properties

Phys/Chem Safety Assessment
The substance is a pasty solid that is manufactured, marketed and used in aqueous solutions only. For regulatory requirements the substance was dried to perform some physico-chemical tests.

Property	Value
Form / physical state	Pasty solid at 20°C and atmospheric pressure For commercial purposes the substance is manufactured, marketed and used in aqueous solutions (30-50%)
Colour	Aqueous solution (30-50%): Colourless to yellow
Odour	Aqueous solution (50%): Slight alcohol odour
Relative density	Aqueous solution (50%): 1.17 at 20°C
Melting point range	No melting point up to 400°C at atmospheric pressure. The substance decomposes before melting and starts decomposition at 160°C
Freezing point	Aqueous solution (30-50%): < 0°C
Boiling point	Dried substance: No boiling point up to 400°C at atmospheric pressure Aqueous solution (30-50%): > 100°C
Flash point	Aqueous solution (30-50%): The aqueous solution has no flash point
Flammability	Non flammable
Explosive properties	Non explosive
Self-ignition temperature	Aqueous solution (50%): 485°C at 1,013.5 – 1,016.5 hPa

Vapour pressure	< 0.0000147 hPa at 20 °C
Molecular weight	No molecular weight can be defined for this complex UVCB substance
Water solubility	> 1000 g /L at 20°C, readily soluble
Octanol Water partition coefficient (log Kow)	-1 at 20°C Low potential for bioaccumulation
Surface tension	Aqueous solution (50%): 34 mN/m at 20°C The mixture has surface active properties

Based on available data, the substance amphoacetates C8-18 is not classified regarding physical and chemical hazards, according to EU regulation (EC) 1272/2008.

Health Effects

Human Health Safety Assessment

Effect Assessment	Result
Acute Toxicity Oral/inhalation/dermal	Not classified as harmful if swallowed. Not classified as harmful by contact with skin. Any significant inhalation is unlikely as the substance is manufactured, marketed and used in aqueous solution only and as it has a low volatility potential due to low vapour pressure.
Irritation / corrosion Skin/eye/respiratory tract	Not classified as irritating to skin. Repeated or prolonged contact may cause slight irritation to the skin. Risk of serious damage to eyes based on occasional observations in animal studies.
Sensitisation	Not classified as sensitising to the skin, based on a skin sensitisation study in guinea pigs. No data for respiratory sensitisation.
Toxicity after repeated exposure Oral/inhalation/dermal	No significant toxicity following long-term oral administration to laboratory rats. No data available by dermal and inhalation routes of exposure.
Genotoxicity / Mutagenicity	*In vitro* tests did not show mutagenic effects.
Carcinogenicity	No carcinogenic effects expected based on the lack of genotoxicity and low toxicity profile of the substance.
Toxicity for reproduction	No data available.

All these results are based on available data. The substance amphoacetates C8-18 is classified as hazardous for health according to EC 1272/2008 regulation.

Environmental Effects

Environment Safety Assessment

Effect Assessment	Result
Aquatic Toxicity	Toxic to fish and aquatic invertebrates. Harmful to algae.

Fate and behaviour	Result
Biodegradation	Readily biodegradable under both aerobic and anaerobic conditions.
Bioaccumulation potential	No bioaccumulation is to be expected (log Pow < 4).
PBT / vPvB conclusion	The substance is considered to be neither “persistent and bioaccumulative and toxic (PBT)” nor “very persistent and very bioaccumulative (vPvB)”.

Based on available data, the substance amphoacetates C8-18 is considered as toxic to aquatic life, but since it is readily biodegradable and not potentially bioaccumulative, it is not classified as dangerous for the environment according to EU regulation (EC) 1272/2008.

Exposure

Considering the life-cycle of amphoacetates C8-18, from manufacture to end-use product, human and environmental exposure have been assessed through exposure scenarios.

Human health

Workplace exposure is limited by closed processes and/or the use of appropriate controls. Where workers have a potential for exposure, during (un)loading, mixing, sampling, analysis or maintenance operations, the exposure must be kept as low as possible and at a safe level by the use of appropriate risk management measures such as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

Since amphoacetates C8-18 are present in a wide range of products, consumers are likely to come in contact with the formulated substance, when using, for example, cosmetics, home or personal care products. Consumer products containing the substance are formulated to comply with requirements of the most stringent regulations for all applicable consumer uses to ensure their safe use in the conditions of use written on the packaging.

Environment

If amphoacetates C8-18 were released into the environment they would mainly reach the water compartment without significant adsorption to the organic matter. Furthermore they would be rapidly degraded and would not be persistent. The substance has a low potential for bioaccumulation. Finally, it is not volatile and will not be released into the air.

Environmental exposure will be low during manufacturing which takes mainly place under closed processes. Waste water will be directed to a biological water treatment plant and ready biodegradation will eliminate the substance. Concerning formulation sites and consumer uses, aqueous releases are directed to a (municipal) waste water treatment plant which again ensures significant removal of possible remaining substance in the effluent.

Risk Management Recommendations

Human health

For industrial uses of amphoacetates C8-18 and as recommended for the use of any chemical product, workers must be well informed and trained and must refer to the extended Safety Data Sheet (eSDS).

In order to control possible risks during the handling of the substance (during (un)loading, mixing, sampling, analysis, or maintenance operations), handling must be under an adequate and efficient ventilation, appropriate Personal Protective Equipment (PPE) must be worn (tightly fitting safety goggles, gloves, protective suit) as recommended in the eSDS. In case of exposure to vapour or aerosol, a respirator with an approved filter must be worn if a risk assessment indicates this is necessary. General industrial hygiene measures are required to ensure safe handling of the substance: Emergency equipment immediately accessible; use well-maintained PPE; wash hands and skin following contact; do not eat, drink or smoke at the workplace).

For consumer uses, amphoacetates C8-18 are formulated in suitable concentrations according to appropriate regulations, to ensure safe-use of the final products, in the conditions of use written on the product packaging.

Environment

All industrial aqueous releases that may contain amphoacetates C8-18 must be directed to a waste water treatment plant and controlled in accordance with the local regulation.
Emissions in the air are not expected as the substance has a low potential for volatility. Emission to soils are not expected either as the substance is not directly released to soil and will not be significantly adsorbed on sludge.
Disposal, treatment or recycling of industrial waste must comply with applicable regulations to preserve the environment.

State Agency Review

Reaction products of 1H-Imidazole-1-ethanol, 4,5-dihydro-, 2-(C7-C17 odd numbered, C17-unsatd. alkyl) derivs. and sodium hydroxide and chloroacetic acid has been registered under:	EU regulation (EC) 1907/2006 (REACH)

The substance meets the requirements of the most stringent regulations for all applicable consumer applications.

Regulatory Information / Classification and Labelling

Substance classification and labelling according to EU regulation (EC) 1272/2008 (CLP):

Classification

Serious eye damage, Category 1	H318 Causes serious eye damage.

Labelling

Pictogram:

Signal word: Danger

Hazard statements:

H318 Causes serious eye damage.

Precautionary statements:

P280 Wear protective gloves/ 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.

Contact Information within Company

For further information on this substance or Product Safety Summaries in general, please contact:

Rhodia Global Product Strategy: http://www.rhodia.com/en/sustainability/global_product_strategy/index.tcm

Contact: globalproductstrategy@eu.rhodia.com

Additional Information

ICCA Global Product Strategy: http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/

(extended) Safety Data Sheet available on demand: http://www.rhodia.com/en/contact/contact_form_business.tcm

Glossary of technical terms: http://www.rhodia.com/en/sustainability/global_product_strategy/glossary/index.tcm

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Disclaimer

The information provided in the present Safety Summary is based on European data available in REACH regulatory dossier (EC N°1907/2006) and is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only intended to provide a general overview of the chemical substance in the context of ICCA Global Product Strategy and is not to be considered as a warranty or quality specification. It does not replace the safety data sheet and technical sheets. Thus, the information provided in this Safety Summary only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in another manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.