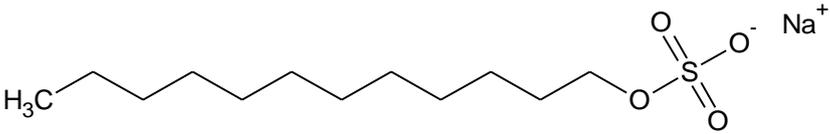
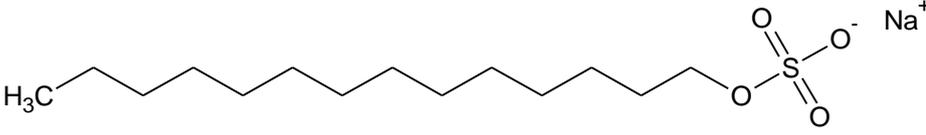


Sodium alkyl sulfate (C12-14 AS)

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 in the Summary is basic information and is not intended to provide emergency response, medical or treatment information.

1. Chemical Identity

Name	Sulfuric acid, mono-C12-14-alkyl esters, sodium salts
CAS Number	85586-07-8
Molecular Formula	UVCB substance (substances of Unknown or Variable composition, Complex reaction products or Biological materials), no univocal molecular formula available
Structural Formulas (examples)	<p>C12:</p>  <p>C14:</p> 

2. Use and Applications

Alkyl sulfates, and specifically, C12-14 AS, are common components in washing and cleaning products.



Global Product Safety Summary

3. Physical/Chemical Properties

The substance is a water soluble solid and is available in two different forms in the supply chain, as powder or granules. The form of the substance influences its flammability. Whereas the granules are considered to be non flammable, the powder form has to be classified as flammable. Both forms are non explosive.

Property	Value
Physical state	Solid
Relative density	1.155 at 20 °C
Melting point	Glass transition state at 5 °C and 102 °C
Boiling point	Ca. 187 °C at 1010 hPa
Flash point	206.5 °C at 1013 hPa
Flammability	Granules: non flammable Powder: flammable
Explosive properties	Non explosive
Self-ignition temperature	>302 °C
Vapor pressure	<0.18 Pa at 25 °C
Water solubility	>400 g/l at 20 °C
Molecular weight	288 - 316 g/mol
Octanol/water partition coefficient (log Kow)	<-2.42 at 20 °C (calculated)

4. Human Health Safety Assessment

➤ Consumer

Consumers will only come in contact with the substance in mixtures. The concentration of the substance in these mixtures is below the level which would give rise to concern. When used as recommended all mixtures do not pose a risk for consumers. Nevertheless, consumers should always read product information before use and follow the label / use instructions.

➤ Worker (at P&G)

Only qualified and trained workers handle the neat substance. Each manufacturing facility offers a thorough training program for employees and appropriate work processes, as well as safety equipment (goggles and gloves) in place to limit unnecessary exposure. Safety showers and eye-wash stations are accessible nearby. Workers have been trained follow the recommended safety measures in the Extended Safety Data Sheet (eSDS).



Global Product Safety Summary

Effect Assessment	Result
Acute Toxicity oral/ inhalation/ dermal	Harmful if swallowed Harmful if inhaled (powdered form only) Based on available data not considered acutely toxic when in contact with skin
Irritation skin/ eye/ respiratory tract	Causes skin irritation Causes serious eye damage May cause respiratory irritation (powdered form only)
Sensitization	Based on the available data not considered to cause allergic skin reaction
Toxicity after repeated exposure	Based on the available data not considered to cause damage to organs through prolonged or repeated oral exposure
Mutagenicity	Based on the available data not considered to cause genetic defects
Carcinogenicity	Based on the available data not considered to cause cancer
Toxicity for reproduction	Based on the available data not considered damaging fertility or the unborn child

5. Environmental Safety Assessment

Extensive aquatic toxicity and environmental fate testing showed that C12-14 AS does not have to be considered as harmful for the environment, since the concentrations of the substance present in the environment are considered to be negligible, due to its ready biodegradability and an expected low accumulation potential in the food chain.

Effect Assessment	Result
Aquatic Toxicity	Based on available data the substance is not classified as harmful for the environment
Biodegradation	Readily biodegradable
PBT/ vPvB conclusion	Not persistent in the environment, not bioaccumulating in organisms and not toxic (PBT) nor very persistent and very bioaccumulating (vPvB)



Global Product Safety Summary

As demonstrated in the hazard assessment C12-14 AS is considered to be readily biodegradable and is therefore removed from waste water during the waste water treatment processes. Remaining amounts reaching surface waters are further diluted and removed by biological degradation processes. Degradation was demonstrated in water/sediment studies using analogous substances. Further, the substance is not expected to accumulate in the food chain. Nevertheless, an exposure assessment for all identified uses was conducted and resulted in a negligible risk for the environment. Consequently, all identified uses of the substance are considered to be safe for the environment.

6. Exposure

Consumer

C12-14 AS is a substance of widespread use. Exposures via inhalation and/ or dermal contact are the primary routes of exposure to C12-14 AS that are anticipated for the worker population. Exposure can occur either in a C12-14 AS manufacturing facility or in the various industrial facilities that use C12-14 AS. Those working with C12-14 AS in industrial operations could be exposed during maintenance, sampling, testing, or other procedures.

The general public may come in contact with C12-14 AS contained in mixtures like washing and cleaning products. Main exposure routes are via skin contact or after accidental swallowing.

Environment

Due to its numerous uses by the general public and its industrial uses C12-14 AES is released to waste water treatment plants. Releases may occur at production and industrial handling sites (preparation, handling, storage of substance) and from consumer homes, for example from laundry products. The neat substance is only handled at production sites or manufacturing facilities and releases to the environment are highly controlled.

When released to waste water treatment plants after consumer use the substance undergoes rapid biodegradation.

Due to the low vapor pressure the substance is not volatile and emission into air can be neglected.

7. Risk Management Recommendations (for manufacturing plant workers)

When using chemicals make sure that there is adequate ventilation. Always use appropriate chemical resistant gloves to protect your hands and skin and always wear eye protection such as chemical goggles. Do not eat, drink, or smoke where chemicals are handled, processed, or stored. Wash hands and skin following contact. If the substance gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and seek medical attention.

All effluent releases that may contain the substance must be directed to a (municipal) waste water treatment plant that removes the substance from the final releases to the receiving water. Releases to air are not expected and therefore no specific recommendations are required.

8. EU REACH Status

This substance has been registered under the European REACH Regulation EC/1907/2006.

9. Classification and Labeling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the (M)SDS. 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.

Labeling according to EU GHS/ CLP (granular form)

UN GHS is the basis for country specific GHS labeling.

This GPS Safety Summary implements the legal obligations for classification, labeling and packaging (CLP, EU GHS) as laid down in the EU directive 1272/2008 and its amendments as in force at time of compilation. This is an adaptation of the general UN GHS implementation which may be adapted to country specific demands. Hence the classification presented in this document may differ from classifications applied in non EU countries.



Signal word: Danger

Hazard statements:

H302: Harmful if swallowed

H315: Causes skin irritation

H318: Causes serious eye damage

Labeling according to EU GHS/ CLP (powdered form)

UN GHS is the basis for country specific GHS labeling.

This GPS Safety Summary implements the legal obligations for classification, labeling and packaging (CLP, EU GHS) as laid down in the EU directive 1272/2008 and its amendments as in force at time of compilation. This is an adaptation of the general UN GHS implementation which may be adapted to country specific demands. Hence the classification presented in this document may differ from classifications applied in non EU countries.



Signal word: Danger

Hazard statements:

H228: Flammable solid

H302: Harmful if swallowed

H332: Harmful if inhaled

H315: Causes skin irritation

H318: Causes serious eye damage

H335: May cause respiratory irritation

10. Conclusion

As a result of the hazard assessment and PBT/ vPvB assessment it is found that C12-14 AS is not considered to be a PBT/ vPvB.

It was demonstrated that the substance does not pose any unacceptable risks to the environment. The substance is readily biodegradable, not bioaccumulating and not classified as harmful to aquatic life.

C12-14 AS is harmful if swallowed. Contact with the undiluted substance may cause irritation to the skin and damage the eyes. Additionally, when in powdered form substance is flammable, harmful when inhaled and may cause respiratory irritation. When handling neat substance workers should follow standard safety measures and refer to current Safety Data Sheet.

Based on its toxicity concerning human health a risk to the general public is not anticipated as consumer will usually not come into contact with the neat substance and substance concentrations in consumer products are below a level which would give rise to any concern.

11. Contact Information

For further information on this substance or product safety summaries in general, please contact us via email at reachfhc.im@pg.com or visit our website at

<http://www.pgproductsafety.com/productsafety/icca-gps.shtml>

Additional information on the ICCA global product strategy can be found here: <http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

IFA GESTIS-database on hazardous substances: <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>



Global Product Safety Summary

12. Date of Issue

Date of issue: 30/03/2012

Revision #: -

13. Disclaimer

The information contained in this Safety Summary is provided in utmost good faith and has been based on the best information currently available (i.e. the EU REACH Registration dossier). All endpoint data presented in this paper refer to the active ingredient (i.e. concentrated/undiluted substance), unless otherwise noted. This document is NOT intended to be comprehensive or to replace information found in the corresponding Material Safety Data Sheet (SDS). When handling the material in plants, SDS should be used and not this summary. This document may be subject to additional legal terms and conditions set out in the internet disclaimer, http://www.pg.com/en_US/terms_conditions/index.shtml.