

**Sodium Percarbonate (EC # 239-707-6 / CAS # 15630-89-4)
disodium carbonate, compound with hydrogen peroxide (2:3)**

**Information for the Downstream Users (DUs) and DUs' Trade Associations on
the Exposure Scenarios, use descriptors and Uses**

AIM: This document aims at identifying the uses, which will be jointly assessed by the Sodium Percarbonate REACH Consortium Members and documented in the Chemical Safety Report (CSR) as part of the joint registration dossier of sodium percarbonate. It also contains the classification proposed by the Sodium Percarbonate REACH consortium and the identity of the substance.

It allows each Downstream User to check if its Use(s) has been identified and that they contact either their supplier or preferably the international Association for Soaps, Detergents and Maintenance Products (A.I.S.E.) as Trade Association for streamlining the communication if they have a specific input.

The selection of the Use Descriptors has been done with the input of A.I.S.E.

(<http://www.aise.eu/reach/>) and the finalization of the CSR is on-going, with as deliverable a complete set of OC and RMM through the extended Safety Data Sheet.

The chosen exposure scenarios have to be seen as generic exposure scenarios, which represent the most common and critical conditions and shall also cover other possible uses which are in principle similar or less risky for the human health.

It also contains a summary of the proposed classification and the risk reduction measures.

Exposure Scenario 1: *Production of sodium percarbonate (Use descriptors¹ selected: SU 8 / PROC 1, 2, 4, 8b and 9 / ERC 1)*

Production of sodium percarbonate

Sodium percarbonate is produced by mainly two different processes, the crystallization and the fluid bed granulation process.

The present scenario describes the manufacture of sodium percarbonate in the chemical industry, which is performed by the reaction of sodium carbonate with hydrogen peroxide in dry or wet processes in closed systems (continuous or batch). The emissions of sodium percarbonate into the air of work places during manufacture thus are minimised. The scenario covers also the transfer and the repackaging of the substance, which must follow the same safety rules. describes the production of sodium percarbonate

Exposure Scenario 2: *Formulation of cleaning, biocidal and water treatment products containing sodium percarbonate (Use descriptors² selected: SU 3, 10 / PC 8, 14, 15, 25, 34, 35, 36, 37, 39 / PROC 1, 2, 3, 4, 5, 8a, 8b, 9 and 14 / ERC 2, 6B, 7)*

Formulation of cleaning, biocidal and water treatment products

Sodium percarbonate is used by industry to formulate a variety of cleaning products including powders or tablets sold as laundry detergents, dishwashing products, or a variety of other cleaning

¹ For the meaning of the different Use descriptors, please check the according document, the updated Chapter R.12 of the ECHA Guidance on Information Requirements and Chemical Safety Assessment

² For the meaning of the different Use descriptors, please check the according document, the updated Chapter R.12 of the ECHA Guidance on Information Requirements and Chemical Safety Assessment

products. In addition, the substance is used in the formulation of biocidal and water treatment products.

The present scenario describes the formulation of preparations containing sodium percarbonate by mixing or blending in continuous or batch processes. This includes loading and unloading operations at dedicated filling lines and the production of preparations by tableting and compression.

Exposure Scenario 3: *Industrial and professional use of cleaning, biocidal and water treatment products containing sodium percarbonate (Use descriptors selected: SU 1, 5, 22 / PC 8, 14, 15, 20, 25, 34, 35, 36, 37, 39/ PROC 2, 4, 8a, 8b, 9, 10, 11, 13 and 19 / ERC 8A, 8B, 8E)*

The exposure scenario describes the use of cleaning, biocidal and water treatment products containing sodium percarbonate in industrial settings or commercial laundry shops or by other professional users.

Cleaning, biocidal and water treatment products containing sodium percarbonate are available in form of powders or tablets. The activities described in the scenario are the unpacking and transfer of the powder/tablets from the package to the machine or treatment vessel, the loading of the product into the machine or treatment vessel, the operation of the machine or manipulation of the treatment process and the disposal of the aqueous product solutions via the sewer after use.

Exposure Scenario 4: *Use of cleaning, biocidal and water treatment products containing sodium percarbonate (Use descriptors selected: SU 21 / PC 8, 35, 36, 37, 39 / ERC 8A, 8B)*

The scenario describes the use by consumers (private households) of cleaning products and other retail products (represented by laundry detergents and bleaches) containing sodium percarbonate.

The scenario describes the use by consumers of fabric washing products and laundry bleaches, which are representative of other cleaning products such as dishwashing and household cleaning products or other retail products containing sodium percarbonate. It is expected that washing products will also cover the use of water treatment products. All these products are available in form of powders or tablets. The activities described in the scenario are the unpacking and transfer of the powder/tablets from the package to the machine or washing tube (or other treatment vessel) by hand (without wearing gloves), the preparation of aqueous solutions of the products, their use to wash the fabric or treat water. The scenario describes also the disposal of these solutions via the sewer.

Summary description of exposure scenarios covering the identified uses with Use Descriptors

Exposure scenario	Sector of Use (SU)	Preparation Category (PC)	Process category (PROC)	Article category (AC)	Environmental category (ERC)
ES 1	SU 8 (Manufacture of bulk chemicals)	Not applicable	PROC 1, 2, 4, 8b and 9	Not applicable	ERC 1
ES 2	SU 3, 10 (Formulation and repackaging)	PC 8, 14, 15, 25, 34, 35, 36, 37, 39	PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 14	Not applicable	ERC 2, 6b, 7
ES 3	SU 1, 5, 22 (Public domain)	PC 8, 14, 15, 20, 25, 34, 35, 36, 37, 39	PROC 2, 4, 8a, 8b, 9, 10, 11, 13, 15, 19	Not applicable	ERC 8a, 8b, 8e
ES 4	SU 21 (Private households)	PC 8, 35, 36, 37, 39	Not applicable	Not applicable	ERC 8a, 8b

Other Uses

For cosmetics which contain sodium percarbonate, the assessment of human health risks will not be performed in this CSR because the assessment is covered by the EU Cosmetics Directive. The formulation of biocidal products which contain sodium percarbonate as a precursor is covered by the according exposure scenario, but formally not the “industrial, professional or consumer use of biocides” since the risk assessment for the use of this type of products is covered by EU Directive 98/8/EC. The exposure scenarios included in the present document, however, are likely to describe also similar uses of cosmetic and biocidal products and thus demonstrate the safe use also of these types of products.

If you see your use above or if you can accept that your use is covered by the chosen exposure scenarios, then please don't react and you will receive in due time the relevant information through the extended Safety Data Sheet by your supplier.

Classification

Sodium percarbonate is not listed in Annex I of Directive 67/548/EEC and in Annex VI of the CLP Regulation 1272/2008.

Self classification(s) and labelling

The proposed classification under Directive 67/548/EEC is:

Proposed classification: Xn: R22
 Xi: R41
 O: R8

Proposed labelling: Xn: R22 (harmful if swallowed)
 Xi: R41 (risk of serious damage to eyes)
 O: R8 (contact with combustible material may cause fire)

Proposed specific concentration limits:
 C ≥ 25 % : Xn; R22-41
 10 ≤ C < 25 % : Xi; R36

This corresponds to the following classification under CLP Regulation (EC) 1272/2008:

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Proposed classification: H272
 H302
 H318

Proposed labelling (symbol, signal word and hazard statement):

Flame over circle	Warning	H272: May intensify fire; oxidizer
Exclamation mark	Warning	H302: Harmful if swallowed
Corrosive symbol	Danger	H318: Causes severe eye damage

Proposed specific concentration limits:

C ≥ 25 % : H302, H318
 10 ≤ C < 25 % : H319

Risk reduction measures

Because sodium percarbonate is labelled with R41 (Risk of serious damage to eyes), the risk management measures for human health should focus on the prevention of eye contact with the substance. Appropriate eye protection is therefore required. Under certain use conditions exposure via inhalation could occur. An occupational exposure limit (8 hour TWA) of 5 mg/m³ has been proposed for sodium percarbonate. Adequate risk management measures (e.g. local exhaust ventilation) should be used to assure that worker exposure is less than 5 mg/m³.

Aquatic ecotoxicity studies with sodium percarbonate show that the ecotoxicity is explained by the release of hydrogen peroxide. For this reason risk management measures should assure that the Predicted Environmental Concentration (PEC) of hydrogen peroxide in the receiving water (e.g. river or lake) is lower than the Predicted No Environmental Concentration (PNEC) of hydrogen peroxide (0.01 mg/l). No emission and therefore no risk for the aquatic ecosystem is expected when an effluent, containing sodium percarbonate, is treated by a Sewage Treatment Plant (STP). Hydrogen peroxide will be degraded, while sodium carbonate will be neutralised by the STP.

Substance composition

The substance sodium percarbonate with the EC number 239-707-6, the EC name disodium carbonate, compound with hydrogen peroxide (2:3) and the CAS number 15630-89-4 covered with the present dossier contains always greater than 80 % sodium percarbonate. Sodium percarbonate may contain impurities in varying quantities, such as sodium carbonate or sodium sulphate. The major impurities and their maximum concentrations are given in Table 2. The sum of all impurities always remains below 20 %.

Impurities	CAS-No	EINECS-No	Concentration (in %)
Sodium carbonate	497-19-8	207-838-8	max. 11%
Sodium chloride	7647-14-5	231-598-3	max. 5%
Sodium sulfate	7757-82-6	231-820-9	max. 10%
Silicic acid, sodium salt	1344-09-8	215-687-4	max. 2%
Sodium metaborate, anhydrous	7775-19-1	231-891-6	max. 3%

For any further question, you can contact Shaun PRESOW, Sodium Percarbonate REACH Consortium Secretary: pcs@reachcentrum.eu.