STATEMENT OF CONFORMITY

no LCA-15

Following the sample checks made by the auditors of this Certification Body both on the documents presented (LCA Study – Semtrio: Life Cycle Assessment Report (Sodium Carbonate and Sodium Bicarbonate), rev. 0.0 of 02/11/2021), and remote audit performed on Organization Kazan Soda Elektrik Uretim A.S. on 20/10//2021,

WE HEREBY DECLARE THAT:

LCA Study

related to the following product/service:

Sodium carbonate (bulk, big bag and small bag)
Sodium bicarbonate (bulk, big bag and small bag)

calculated by the following organisation:

Kazan Soda Elektrik Uretim A.S.

Paşalimanı Caddesi No:41, 34674 Üsküdar (TURKEY)

IS IN LINE WITH THE REQUIREMENTS OF THE ISO 14040:2006 AND ISO 14044:2006 STANDARDS

The present verification statement is valid for the analysis based on year 2020 primary data

In annex 1 the impact values

.....

Date of issue: 03/01/2022

Eda YURDAKUL
Turkey Certification Head

RINA Services S.p.A.
Via Corsica 12 – 16128 Genova Italy

ANNEX 1

Functional unit: 1000 kg of product

Impact Category	Unit	for 1000 kg of sodium carbonate - bulk	for 1000 kg of sodium carbonate - bigbag	for 1000 kg of sodium carbonate - small bag
Climate change	kg CO_2 eq	884	857	848
Ozone depletion	kg CFC11 eq	4.77E-05	4.11E-05	3.70E-05
Ionising radiation	kBq U-235 eq	5.863	4.277	3.460
Photochemical ozone formation	kg NMVOC eq	1.603	0.921	0.536
Particulate matter	disease inc.	5.39E-06	4.93E-06	4.65E-06
Human toxicity, non-cancer	CTUh	1.56E-06	1.53E-06	1.50E-06
Human toxicity, cancer	CTUh	7.94E-08	9.62E-08	8.29E-08
Acidification	mol H+ eq	2.229	1.162	0.555
Eutrophication, freshwater	kg P eq	0.002	0.002	0.002
Eutrophication, marine	kg N eq	0.498	0.259	0.121
Eutrophication, terrestrial	mol N eq	5.53	2.87	1.32
Ecotoxicity, freshwater	CTUe	2,888	2,771	2,729
Land use	Pt	800	3,698	3,698
Water use	m^3 depriv.	103	109	118
Resource use, fossils	MJ	6,343	6,102	6,136
Resource use, minerals and metals	kg Sb eq	2.57E-04	2.75E-04	3.02E-04
Climate change - Fossil	kg CO_2 eq	884	856	846
Climate change - Biogenic	kg CO_2 eq	0.087	0.104	0.124
Climate change - Land use and LU change	kg CO_2 eq	0.135	0.140	0.130
Human toxicity, non-cancer - organics	CTUh	5.76E-08	6.29E-08	6.61E-08
Human toxicity, non-cancer - inorganics	CTUh	4.59E-07	4.68E-07	4.44E-07
Human toxicity, non-cancer - metals	CTUh	1.08E-06	1.04E-06	1.03E-06
Human toxicity, cancer - organics	CTUh	1.82E-08	5.14E-08	4.96E-08
Human toxicity, cancer - inorganics	CTUh	0	0	0
Human toxicity, cancer - metals	CTUh	6.12E-08	4.48E-08	3.33E-08
Ecotoxicity, freshwater - organics	CTUe	85.237	67.4	50.7
Ecotoxicity, freshwater - inorganics	CTUe	1,153	1,095	1,063
Ecotoxicity, freshwater - metals	CTUe	1,650	1,609	1,615

Impact Category	Unit	for 1000 kg of sodium bicarbonate - bulk	for 1000 kg of sodium bicarbonate - bigbag	for 1000 kg of sodium bicarbonate - small bag
Climate change	kg CO_2 eq	967	976	959
Ozone depletion	kg CFC11 eq	4.19E-05	4.25E-05	3.68E-05
Ionising radiation	kBq U-235 eq	4.272	4.663	3.412
Photochemical ozone formation	kg NMVOC eq	1.059	1.072	0.534
Particulate matter	disease inc.	4.50E-06	5.12E-06	4.60E-06
Human toxicity, non-cancer	CTUh	1.30E-06	1.45E-06	1.38E-06
Human toxicity, cancer	CTUh	5.62E-08	1.01E-07	8.16E-08
Acidification	mol H+ eq	1.405	1.388	0.552
Eutrophication, freshwater	kg P eq	0.002	0.002	0.002
Eutrophication, marine	kg N eq	0.313	0.311	0.120
Eutrophication, terrestrial	mol N eq	3.46	3.44	1.31
Ecotoxicity, freshwater	CTUe	2,546	2,716	2,610
Land use	Pt	746	3,709	3,695
Water use	m^3 depriv.	107	115	123
Resource use, fossils	MJ	6,019	6,238	6,171
Resource use, minerals and metals	kg Sb eq	1.91E-04	2.67E-04	2.82E-04
Climate change - Fossil	kg CO_2 eq	967	975	957
Climate change - Biogenic	kg CO_2 eq	0.076	0.103	0.121
Climate change - Land use and LU change	kg CO_2 eq	0.109	0.145	0.128
Human toxicity, non-cancer - organics	CTUh	5.37E-08	6.33E-08	6.55E-08
Human toxicity, non-cancer - inorganics	CTUh	2.98E-07	3.69E-07	3.31E-07
Human toxicity, non-cancer - metals	CTUh	9.83E-07	1.06E-06	1.02E-06
Human toxicity, cancer - organics	CTUh	1.33E-08	5.17E-08	4.88E-08
Human toxicity, cancer - inorganics	CTUh	0	0	0
Human toxicity, cancer - metals	CTUh	4.29E-08	4.94E-08	3.29E-08
Ecotoxicity, freshwater - organics	CTUe	62.199	73.4	50.3
Ecotoxicity, freshwater - inorganics	CTUe	988	1,009	960
Ecotoxicity, freshwater - metals	CTUe	1,496	1,633	1,600

Genova, 03/01/2022