Material Safety Data Sheet according to Regulation (EG) No 1907/ 2006

Article 611 IEC Reference Detergent E

Date of issue: 15.08.2025
Version: 2.0 Supersedes version: 1.0 (13.01.2023)

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name:	**Article 611 IEC Reference Detergent E**
Synonym:	
UFI:	Q600-T03D-W005-6R2A
REACH Registration No:	-
Product description:	Specialized powder detergent for testing and inspecting dishwasher performance.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses:	Reference detergent for performance testing of dishwashers in accordance with IEC 60436. For professional use only.
Uses advised against:	-

1.3 Details of the supplier of the safety data sheet

Swissatest Testmaterialien AG
Mövenstrasse 12
9015 St. Gallen
Switzerland

Telephone	0041 71 311 80 55
E-Mail	info@swissatest.ch
Internet:	www.swissatest.ch

1.4 Emergency telephone number

Tox Info Suisse Telephone 145

2. Hazards identification

2.1 Classification of the substance or mixture

The product is classified as a hazardous substance based on the calculation method according to Regulation (EC) No. 1272/2008 (CLP Regulation) in its latest valid version.

Eye Irritation (Category 1), H319

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms:

GHS07

Signal word: WARNING

Hazard components for labelling:
Contains: Sodium carbonate

Hazard statements:
H319 Causes serious eye irritation

EUH208: Contains subtilisin. May produce an allergic reaction

Precautionary statements:
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves / protective clothing / eye 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.
P337+P313: If eye irritation persists: Get medical advice.

Components according to 648/2004 EG:
< 5 % nonionic surfactants
5 - < 15 % polycarboxylates
5 - < 15 % bleaching agents, oxygen-based
Enzymes: subtilisin, alpha-amylase

2.3 Other hazards
The mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. The product does not contain any components with endocrine-disrupting properties at or above 0.1%.

3. Composition/information on ingredients

3.1 Substances: The product is a mixture.

3.2 Mixtures

Ingredient	CAS No.	EC-No.	Content [wt. %]	Classification according to (EG) N° 1272/2008
Sodium carbonate	497-19-8	207-838-8	51	Eye Irrit. 2, H319
Trisodium citrate dihydrate	6132-04-3	200-675-3	30	None
2-Propenoic acid, polymer with 2,5-furandione, sodium salt	52255-49-9	610-814-3	6	Eye Irrit. 2, H319
Sodium percarbonate	15630-89-4	239-707-6	6	Ox. Sol. 3, H272, Eye Dam. 1, H318, Acute Tox. 4, H302 SCL: H319, Cat. 2; 7.5 % ≤ C < 25 %, H318, Cat. 1; C > 25 %
Alcohols, C12-C15-branched and linear, ethoxylated propoxylated	120313-48-6	639-733-1	2	Skin Irrit. 2, H315; Short-term (acute) aquatic hazard 1, H400; Aquatic Chronic 3, H412
Silicic acid, sodium salt	1344-09-8	215-687-4	1	Skin Irrit. 2, H315, Eye Dam. 1, H318, STOT SE 3, H335
Subtilisin	9014-01-1	232-752-2	0.2	Acute Tox. 4 (Oral) H302, Skin Irrit. 2, H315; Eye Dam. 1 H318; Resp. Sens. 1, H334; STOT SE 3, H335; Acute Aquatic 1, H400; Chronic Aquatic 2, H411
Alpha-amylase (aep.)	9000-90-2	232-565-6	0.003	Resp. Sens. 1, H334

SVHC
This preparation does not contain substances of very high concern (SVHC) in a concentration of ≥ 0.1 % according to Regulation (EC) 1907/2006, Article 57.

Further Information: -

See Section 16 for wording of H and P statements.

4. First-aid measures

4.1 Description of first aid measures

General instructions:	Remove contaminated clothes and wash them before reuse.
After inhalation:	Move the affected person to fresh air and ensure unhindered breathing. In case of symptoms, seek immediate medical attention.
After skin contact:	Rinse with water. If skin irritation persists, consult a doctor.
After eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if worn and easy to do. Continue rinsing. Seek immediate medical attention.
After ingestion:	Rinse mouth and give 1-2 glasses of water to drink. Do not induce vomiting. Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed
After eye contact: Irritation / redness

4.3 Indication of any immediate medical attention and special treatment needed
Symptomatic treatment.

5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media: Adapt fire extinguishing measures to the surroundings.
Unsuitable extinguishing media: Water jet.

5.2 Special hazards arising from the substance or mixture
The product is not combustible.
Formation of toxic pyrolysis products.
Formation of hazardous smoke or vapours possible (CO).
Formation of hazardous silica compounds.

5.3 Advice for firefighters
In the event of a fire, a self-contained breathing apparatus and a full protective suit should be worn. Do not inhale vapours and fumes. If safe to do so, remove the container from the hazard area.
Collect contaminated extinguishing water and dispose of it in accordance with regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures
Advice for non-emergency personnel: Ensure sufficient ventilation.
Avoid skin and eye contact. Use personal protective equipment (see chapter 8).
Advice for emergency responders: Personal protective equipment according to EN 469 is recommended.

6.2 Environmental precautions
Prevent release into sewers, surface water, or groundwater.

6.3 Methods and material for containment and cleaning up
Product can be disposed of by mechanical means. Dispose of product according to chapter 13. Clean spill with water.

6.4 Reference to other sections
Information on safe handling: see chapter 7.
Information on PSA: see chapter 8.
Information on disposal: see chapter 13.

7. Handling and storage

7.1 Precautions for safe handling

Provide sufficient ventilation at workplace. Avoid dust formation and dust deposition. Remove dust deposits.
Avoid skin and eye contact.
Remove contaminated clothes and wash them before reuse.
Wash hands thoroughly after handling and before break of work.
Do not eat, drink or smoke when using this product.
Observe skin protection plan.

7.2 Conditions for safe storage, including any incompatibilities

Storage:	Keep container tightly closed. Store in a dry place. Store away from food and animal feed. Store in a cool place at max. 25 °C.
Advice on storage assembly:	Keep away from strong oxidizing agents.
Storage class:	11/13 (other solids with hazard labelling)

7.3 Specific end use(s)

Apart from the uses specified in Section 1.2, no other specific uses are identified.

8. Exposure control and personal protection

8.1 Control parameters

Occupational exposure limit values:

Threshold limit values according to SUVA:					
Designation	CAS-N°	TLV (ppm)	TLV (mg/m^3)	STEL (ppm)	STEL (mg/m^3)
Sodium carbonate	497-19-8	-	-	-	-
Trisodium citrate dihydrate	6132-04-3	-	-	-	-
2-Propenoic acid, polymer with 2,5-furandione, sodium salt	52255-49-9	-	-	-	-
Sodium percarbonate	15630-89-4	-	-	-	-
Alcohols, C12-C15-branched and linear, ethoxylated propoxylated	120313-48-6	-	-	-	-
Silicic acid, sodium salt	1344-09-8	-	-	-	-
Subtilisin	9014-01-1	-	-	-	0.00006
Alpha-amylase (aep.)	9000-90-2	-	-	-	-

General exposure limit value for inhalable dusts: 10 mg/m^3
General exposure limit value for dust fraction entering alveoli: 3 mg/m^3

8.2 Exposure controls

Appropriate engineering controls:
Provide sufficient ventilation, e.g., through local exhaust ventilation. Provide appropriate decontamination and cleaning equipment (running water, eye-wash station).

Individual protective measures, personal protective equipment

Eye / face protection
Safety goggles with side protection (EN 166).

Skin protection
Use protective gloves according to EN 374-3. Glove material: butyl or nitrile rubber, rubber, neoprene.
For full contact, use nitrile gloves with minimum layer thickness of 0.11 mm, break through time 480 min. Please consult also your glove supplier for further information on the appropriate material thickness and breakthrough times.

Respiratory protection
Not necessary if sufficient ventilation is provided. For short-term exceedances of the general exposure limits for dust use particle filter P2 according to EN 143.

Body protection
Standard work clothing.

General protective and hygiene measures:
Do not eat, drink, or smoke during work.
Keep away from drinks, food, and animal feed.
Wash hands before breaks and at the end of work.
Use of skin protection measures in accordance with SUVA Information Sheet 44074 is recommended.

Environmental exposure controls
Compliance with local emission limit values must be ensured.
Emissions to air, water, and soil should be avoided.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Powder
Colour:	White
Odour:	No data available
Odour threshold:	No data available
Melting point:	No data available
Boiling point:	No data available
Self-ignition	Not applicable
Lower / upper explosion limits:	Not applicable
Flashpoint:	Not applicable
Ignition temperature:	No data available
Decomposition temperature	Not applicable
pH-value (1% in water)	No data available
Kinematic Viscosity:	No data available
Solubility in water:	Soluble
log K_{ow}:	No data available
Vapour pressure:	Not applicable
Vapour density:	not applicable
Density at 20 °C:	No data available
Particle characteristics	No data available

9.2 Other information
None.

10. Stability and reactivity

10.1 Reactivity
The product is stable when used and stored according to the manufacturer's instructions for use (see chapter 7).

10.2 Chemical stability
No decomposition when used as intended (see Section 7).

10.3 Possibility of hazardous reactions
The product reacts with acids and strong oxidants.

10.4 Conditions to avoid
Avoid excessive heat and humidity.

10.5 Incompatible materials
No information available.

10.6 Hazardous decomposition products
The product will not degrade to unstable products when used according to the instructions for use. In case of fire, toxic smoke gases (CO), pyrolysis products and silicates may form.

11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
For ingredients: according to ECHA (unless otherwise indicated)

Designation	CAS-N°	LD_{50} oral (test organism)	LD_{50} dermal (test organism)	LC_{50} inhalation (test organism)
Sodium carbonate	497-19-8	LD50 2‘800 mg/kg bw (rat)	2‘000 mg/kg bw (rabbit)	2.3 mg/L air (2 h; rat)
Trisodium citrate dihydrate	6132-04-3	5‘400 mg/kg bw (mouse)[1]	> 2‘000 mg/kg bw (rat)	No data available
2-Propenoic acid, polymer with 2,5-furandione, sodium salt	52255-49-9	No data available	No data available	No data available
Sodium percarbonate	15630-89-4	894 – 1‘164 mL/kg bw (rat)	2.500 mL/kg bw (rabbit)	No data available
Alcohols, C12-C15-branched and linear, ethoxylated propoxylated	120313-48-6	No data available	No data available	No data available
Silicic acid, sodium salt	1344-09-8	3‘400 mg/kg bw (rat)	5’000 mg/kg bw (rat)	2.06 mg/L air (2 h; rat)
Subtilisin	9014-01-1	1‘728 mg/kg bw (rat)	no data available	no data available
Alpha-amylase (aep.)	9000-90-2	1‘911 mg/kg bw (rat)	no data available	no data available

For product:
No information available.

Skin corrosion / irritation:
The product is not classified. The product contains substances (< 5 %, w/v) that may cause skin irritation.

Serious eye damage / eye irritation
The product is classified. May cause serious eye irritation.

Respiratory or skin sensitization
The product is not classified. The product contains substances (< 0.05 %, w/v) that may cause respiratory and skin sensitization.

Germ cell mutagenicity
The product is not classified. The product does not contain substances classified as mutagenic.

Carcinogenicity
The product is not classified. The product does not contain substances classified as carcinogenic.

Reproductive toxicity
The product is not classified. The product does not contain substances classified as toxic for reproduction.

Specific target organ toxicity, repeated exposure
The product is not classified. The product does not contain substances classified as specific target organ toxicant after repeated exposure.

Specific target organ toxicity, single exposure
The product is classified. The product contains substances (< 2 %, w/v) that may cause specific target organ toxicant after single exposure.

Aspiration hazard
The product is not classified. The product does not contain any substances classified as aspiration hazard.

11.2 Information on other hazards

Endocrine disruption properties
This mixture does not contain any components with endocrine disrupting properties in concentrations ≥ 0.1 %, as defined in Article 57(f) of the REACH Regulation or in Delegated Regulations (EU) 2017/2100 and (EU) 2023/707. Therefore, no health-relevant effects due to endocrine disrupting properties are present.

Other information
Not known.

12. Ecological information

12.1 Toxicity
For ingredients: according to ECHA (unless otherwise indicated)

Designation	CAS-N°	Indicator	Value
Sodium carbonate	497-19-8	LC50 (96 h) Fish	300 mg/L
		EC50 (48 h) Aquatic invertebrates	200 - 227 mg/L
		EC50 (72 h) Aquatic algae und cyanobacteria	800 mg/L
Trisodium citrate dihydrate	6132-04-3	LC50 (48 h) Fish	440 - 760 mg/L
		EC50 (24 h) Aquatic invertebrates	1.535 g/L
2-Propenoic acid, polymer with 2,5- furandione, sodium salt	52255-49-9	No data available.	-
Silicic acid, sodium salt	1344-09-8	LC50 (96 h) Fish	260 – 1'108 mg/L
		EC50 (48 h) Aquatic invertebrates	1.7 g/L
		EC50 (72 h) Aquatic algae und cyanobacteria	207 - 345.4 mg/L
Sodium percarbonate	15630-89-4	LC50 (96 h) Fish	70.7 mg/L
		EC50 (48 h) Aquatic invertebrates	4.9 mg/L
Alcohols, C12-15- branched and linear, ethoxylated propoxylated	120313-48-6	LC50 (96 h) Fish	1- 10 mg/L
		EC50 (48 h) Aquatic invertebrates	1 mg/L
		EC50 (72 h) Aquatic algae und cyanobacteria	0.1 – 1 mg/L
Subtilisin	9014-01-1	LC50 (96 h) Fish	15.6 mg/L
		EC50 (48 h) Aquatic invertebrates	327 µg/L
		EC50 (72 h) Aquatic algae und cyanobacteria	548 – 9'770 µg/L
Alpha-amylase (aep.)	9000-90-2	EC50 (48 h) Aquatic invertebrates	212 – 2'000 mg/L
		EC50 (72 h) Aquatic algae und cyanobacteria	2.5 - 49 mg/L

For product:
No data available.

12.2 Persistence and degradability
The surfactants contained in the product are biodegradable in accordance with the requirements of Regulation (EC) No 648/2004. Data supporting this property are held at the disposal of the competent authorities of the Member States and will be made available to them upon direct request or at the request of a detergent manufacturer.

12.3 Bioaccumulative potential
No evidence of bioaccumulation.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
The mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
This mixture does not contain any components with endocrine disrupting properties in concentrations ≥ 0.1 %, as defined in Article 57(f) of the REACH Regulation or in Delegated Regulations (EU) 2017/2100 and (EU) 2023/707. Therefore, no environmentally relevant effects due to endocrine disrupting properties are present.

12.7 Other adverse effects
Water hazard class 1 (self-classification): slightly hazardous to water
Avoid release into the environment. Do not discharge undiluted or in large quantities into water bodies or the sewage system.

13. Disposal considerations

13.1 Waste treatment methods
Dispose of in accordance with official regulations.
Do not dispose of with household waste. Do not release into the sewage system

Product (pure product, empty and partly emptied containers)
Dispose of as hazardous waste.

Waste disposal code:
Ordinance on the movement of waste SR 814.610:
20 01 29 [S] detergents containing dangerous substances.

Absorbing agents polluted with product:
Dispose of as separate fraction.

Waste disposal code:
Ordinance on the movement of waste SR 814.610:
15 02 03 Absorbents, filter materials, wiping cloths other than those mentioned in 15 02 02.

14. Transport information

The product is not classified as a dangerous good according to transport regulations.

14.1 UN Number
-

14.2 UN proper shipping name
-

14.3 Transport hazard class
ADR / RID / IMDG-Code / IATA-Dangerous Goods Regulations
-

14.4 Packing group
-

14.5 Environmental hazards
Label environmentally hazardous substances
ADR / RID / IMDG-Code: -
IATA-DGR: -

14.6 Special precautions for user
-

14.7 Maritime transport in bulk according to IMO instruments
Pollution category (X, Y or Z): - Ship type (1, 2 or 3): -

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water hazard class according to AwSV:
Class 1, slightly hazardous to water.

Chemicals Ordinance (ChemO) SR 813.11:
Group according to Art. 61 ChemO: no group.

Major Accident Ordinance (MAO) SR 814.012:
Quantity threshold according to MAO: no threshold.

Guidelines to the WBF-Ordinance on Hazardous Work for Young Persons (SR 822.115.2):
No restrictions.

Maternity Protection Ordinance SR 822.111.52:
No restrictions.

Restrictions according to Chemical Risk Reduction Ordinance (ORRChem) SR 814.81:
Annexe 2.2: < 5 % non-ionic surfactants, 5 - < 15 % polycarboxylates, 5 - < 15 % bleaching agents, oxygen-based enzymes: subtilisin, alpha-amylase

VOC-Ordinance (OVOC) SR 814.018:
VOC-content: 0%.

15.2 Chemical Safety Assessment
No chemical safety assessment has been carried out for this product by the supplier.

16. Other information

Changes made since last edition
Update classification. Actualisation of MSDS, all sections.

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par route
AwSV : Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen vom 18. April 2017.
CAS: Chemical Abstracts Service
ChemO: Ordinance on Protection against Dangerous Substances and Preparations SR 813.11
CLP: Classification, Labelling and Packaging of Chemicals
EC: effect concentration
FDHA: Federal Department of Home Affairs
ECHA: European Chemicals Agency
FOEN: Federal Office for the Environment
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
IUCLID: International Uniform Chemical Information Database, ECHA.
LC: lethal concentration
LD: lethal dose
MAC: maximum admissible concentration at workplace
MAO: Ordinance on Protection against Major Accidents SR 814.012
NOEC: No Observed Effect Concentration
OVOC: Ordinance on the Incentive Tax on Volatile Organic Compounds SR 814.018
PBT: persistent, bioaccumulative, toxic
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
vPvB: very persistent, very bioaccumulative
VOC: volatile organic compounds
ORRChem: Ordinance on the Reduction of Risks relating to the Use of Certain Particularly Dangerous Substances, Preparations and Articles SR 814.81
STEL: Short term exposure limit
WPO: Waters Protection Ordinance

Key literature references and sources of data
Echa Chemicals Database
Gestis Online Database
MSDS of individual ingredients.
SUVA Maximum Workplace Concentration Database

Methods in accordance with article 9 of Regulation (EC) No 1272/2008 [CLP] applied for the evaluation of hazard information for substances and mixtures:
Additivity principle according to Annex 1, 3.3.3.3; Calculation methods according to Annex 1, 2.6.4.3.

Full text of Statements referred to under sections 2 – 15:
H272: May intensify fire; oxidiser.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335: May cause respiratory irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.

EUH208: Contains subtilisin. May produce an allergic reaction

P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves / protective clothing / eye 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.
P337+P313: If eye irritation persists: Get medical advice.

Training instructions
Employees must be regularly trained in the safe handling of the products based on the information in the safety data sheet and the local conditions of the workplace. National regulations on the training of employees in the handling of hazardous substances must be observed.

Further information
The information in this Safety Data Sheet is based on our current knowledge and complies with national and EU regulations. However, we have no control over the specific working conditions of the user. The user is responsible for ensuring compliance with all applicable legal requirements. The information in this Safety Data Sheet describes the safety requirements of our product and does not constitute a guarantee of product properties.