SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name

DRYSIL® 820C

Name: Silicic acid, sodium salt (1,6 < MR ≤ 2,6) (CAS: 1344-09-8, EC: 215-687-4)
REACH Registration number: 01-2119448725-31-0029

https://my.chemius.net/p/RFLgIn/en/pd/en

Synonyms

Natrijev silikat, Sodium silicate, Natriumsilicat

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

Relevant identified uses

Industrial use.

Uses advised against

No information.

1.3 Details of the supplier of the safety data sheet

Supplier

SILKEM, d.o.o.
Tovarniška cesta 10
2325 Kidričevo, Slovenia
+386 2 7991 200
info@silkem.si

1.4 Emergency Telephone Number

Emergency

112

Supplier

+386 2 7991 214 (7h - 15h)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Skin Irrit. 2; H315 Causes skin irritation.
Eye Dam. 1; H318 Causes serious eye damage.
STOT SE 3; H335 May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Signal word: Danger

Hazard statements:

H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Supplemental hazard information (EU):

Not applicable.

Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

PBT/vPvB

No information.

Endocrine disrupting properties

No information.

Additional information

The substances in the mixture are not classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Name	CAS EC Index Reach	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	Notes for substances
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	1344-09-8 215-687-4 - 01-2119448725-31-0029	99	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335	/	/

3.2 Mixtures

For substances see 3.1.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes

Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. If symptoms develop and persist, seek medical attention. Wash affected skin areas thoroughly with plenty of water and soap.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation does not stop, seek professional medical treatment!

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Consult a physician. Show the physician the safety data sheet or label.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation

Coughing, sneezing, nasal discharge, labored breathing.

Following skin contact

Itching, redness, pain.

Following eye contact

Redness, tearing, pain.

Following ingestion

Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area.

4.3 Indication of any immediate medical attention and special treatment needed

No information.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

No information.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

No information.

5.3 Advice for firefighters

Protective actions

In case of fire do not breathe fumes/gases.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

No information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation.

Emergency procedures

No information.

For emergency responders

No information.

6.2 Environmental precautions

If accidental large entry into water or ground occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

For containment

No information.

For cleaning up

Collect in a suitable container and dispose of according to regulations.

OTHER INFORMATION

No information.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures

Measures to prevent fire

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

Prevent dusting.

Measures to protect the environment

No information.

Other measures

No information.

Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin and eyes. Do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep in cool and well ventilated area. Keep away from food, drink and animal feeding stuffs.

Packaging materials

inappropriate material: aluminium

Requirements for storage rooms and vessels

Keep in tightly closed containers.

Storage class

No information.

Further information on storage conditions

Keep away from incompatible materials (see Section 10).

7.3 Specific end use(s)

Recommendations

No information.

Industrial sector specific solutions

No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

No information.

Information on monitoring procedures

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

Name	Type	Exposure route	exp. frequency	Remark	value
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	Worker	inhalation	long term systemic effects	/	5.61 mg/m³
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	Worker	dermal	long term systemic effects	/	1.59 mg/kg bw/day
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	Consumer	inhalation	long term systemic effects	/	1.38 mg/m³
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	Consumer	dermal	long term systemic effects	/	0.8 mg/kg bw/day
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	Consumer	oral	long term systemic effects	/	0.8 mg/kg bw/day

PNEC values

For product

No information.

For components

Name	Exposure route	Remark	value
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	fresh water	/	7.5 mg/L
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	marine water	/	1 mg/L

Name	Exposure route	Remark	value
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	water treatment plant	/	348 mg/L
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	water, intermittent release	/	7.5 mg/L

8.2 Exposure controls

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

Hand protection

Protective gloves (EN 374).

Appropriate materials

No information

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387).

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure

No information.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state

solid - granules

Colour

white

Odour

no odour

Important health, safety and environmental information

Odour threshold	No information.
Melting point/Freezing point	> 1000 °C
Boiling point or initial boiling point and boiling range	No information.
Flammability	No information.
Lower and upper explosion limit	No information.
Flash point	No information.
Auto-ignition temperature	No information.
Decomposition temperature	No information.
pH	11 – 12
Viscosity	No information.
Solubility	Water: Soluble
Partition coefficient	No information.
Vapour pressure	No information.
Density and/or relative density	Bulk density: 700 – 900 kg/m^3
Relative vapour density	No information.
Particle characteristics	No information.

9.2 OTHER INFORMATION

Explosive properties	No information.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

See section 10.3.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen). Aqueous mixtures may react with aluminium, zinc, tin, copper and their alloys evolving hydrogen gas which can form an explosive mixture with air. Exothermic reaction with acids. Can react with sugar residues with carbon monoxide being formed.

10.4 Conditions to avoid

Follow directions for use and storage.

10.5 Incompatible materials

Aluminium, stain, zinc, and their alloys. See Section 10.3.
Strong acids.

10.6 Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11: TOXICOLOGICAL INFORMATION

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

(a) Acute toxicity

For components

Name	Exposure route	Type	Species	Time	value	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	oral	LD_{50}	rat	/	2800 mg/kg	OECD 401	/
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	dermal	LD_{50}	rat	/	> 5000 mg/kg	EPA OPPTS 870.1200	/

(b) Skin corrosion/irritation

For components

Name	Species	Time	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	rabbit	24 h	Severe irritation.	/	/

(c) Serious eye damage/irritation

For components

Name	Exposure route	Species	Time	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	/	rabbit	24 h	Severe irritation.	/	/

(d) Respiratory or skin sensitisation

For components

Name	Exposure route	Species	Time	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	dermal	mouse	/	Non sensitising.	OECD 429	Local lymph node assay

(e) (Germ cell) mutagenicity

For components

Name	Type	Species	Time	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	in-vitro mutagenicity	Cell: Mammalian-Animal	/	Negative with metabolic activation, negative without metabolic activation.	OECD 473	/
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	/	Cell: Mammalian-Animal	/	Negative with metabolic activation, negative without metabolic activation.	OECD 476	Gene Mutation
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	/	Bacteria	/	Negative with metabolic activation, negative without metabolic activation.	OECD 471	Bacterial Reverse Mutation Test
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	/	mouse	/	Negative.	OECD 475	oral

(f) Carcinogenicity

For components

Name	Exposure route	Type	Species	Time	value	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	/	/	/	/	/	Not carcinogenic.	/	/

(g) Reproductive toxicity

For components

Name	Reproductive toxicity type	Type	Species	Time	value	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	/	NOAEL (P)	rat	12 weeks	159 mg/kg	/	3 generation study	oral: drinking water

Summary of evaluation of the CMR properties

No information.

(h) STOT-single exposure

No information.

(i) STOT-repeated exposure

For components

Name	Exposure route	Type	Species	Time	Exposure	organ	value	result	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	oral	NOAEL	rat	4 weeks	/	/	2400 mg/kg	/	OECD 407	daily

(j) Aspiration hazard

No information.

Symptoms related to the physical, chemical and toxicological characteristics

No information.

Interactive effects

No information.

11.2 Information on other hazards

Endocrine disrupting properties

No information.

Other information

No information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute (short-term) toxicity

For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	LC_{50}	> 100 mg/L	96 h	fish	*Danio rerio*	/	/

Chronic (long-term) toxicity

For components

Name	Type	value	Exposure time	Species	organism	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	NOEC	35 mg/l	/	fish	/	/	/

12.2 Persistence and degradability

Abiotic degradation, physical- and photo-chemical elimination

No information.

Biodegradation

For components

Name	Type	Rate	Time	Evaluation	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	-	/	/	not readily biodegradable	/	/

12.3 Bioaccumulative potential

Partition coefficient

No information.

Bioconcentration factor (BCF)

For components

Name	Species	organism	value	Duration	Evaluation	Method	Remark
Silicic acid, sodium salt (1,6 < MR ≤ 2,6)	-	/	/	/	Does not bioaccumulate.	/	/

12.4 Mobility in soil

Known or predicted distribution to environmental compartments

No information.

Surface tension

No information.

Adsorption/Desorption

No information.

12.5 Results of PBT and vPvB assessment

The substance is not classified as persistent, toxic, or a substance that can accumulate (PBT) or very persistent and very bioaccumulative (vPvB) substance.

12.6 Endocrine disrupting properties

No information.

12.7 Other adverse effects

No information.

12.8 Additional information

For components

Silicic acid, sodium salt (1,6 < MR ≤ 2,6)
Do not allow to reach ground water, water bodies or sewage systems.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / Packaging disposal

Waste chemical

Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste.

Waste codes / waste designations according to LoW

No information.

Packaging

Deliver completely emptied containers to approved waste disposal authorities.

Waste codes / waste designations according to LoW

No information.

Waste treatment-relevant information

No information.

Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number or ID number

ADR/RID	IMDG	IATA	ADN
Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.	Not dangerous according to transport regulations.

14.2 UN proper shipping name

ADR/RID	IMDG	IATA	ADN
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable

14.3 Transport hazard class(es)

ADR/RID	IMDG	IATA	ADN
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable

14.4 Packing group

ADR/RID	IMDG	IATA	ADN
Not given/not applicable	Not given/not applicable	Not given/not applicable	Not given/not applicable

14.5 Environmental hazards

ADR/RID	IMDG	IATA	ADN
NO	NO	NO	NO

14.6 Special precautions for user

ADR/RID	IMDG	IATA	ADN
Limited quantities: **Not given/not applicable**	Limited quantities: **Not given/not applicable**		Limited quantities: **Not given/not applicable**

14.7 Maritime transport in bulk according to IMO instruments

ADR/RID	IMDG	IATA	ADN
	Not given/not applicable		

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2020/878)

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

not applicable

Regulation EC 648/2004 on detergents

No information.

Special instructions

No information.

15.2 Chemical Safety Assessment

A Chemical Safety Report (CSR) was conducted.

SECTION 16: OTHER INFORMATION

Indication of changes

2.3 Other hazards 4.1 Description of first aid measures 9.1 Information on basic physical and chemical properties 9.2 OTHER INFORMATION 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 12.6 Endocrine disrupting properties 12.7 Other adverse effects 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community

EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of ChemicalsRegulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.