SAFETY DATA SHEET REGULATION (EC) No: 1907/2006 (REACH)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier:

Product name: Bradolin alcoholic surface disinfectant

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

Biocidal product, product type: PT1
Surface disinfectant. Can be used for disinfecting smaller, alcohol-resistant surfaces.
Ready-to-use liquid, use as a concentrated, undiluted product.

1.3. Details of the supplier of the safety data sheet

Manufacturer:	Florin Ltd
Address:	17. Kenyérgyári út, Szeged, 6725
Phone Number:	0062 592 100
Fax:	0062 592 145
E-mail:	info@florin.hu

1.4. Emergency telephone number

Health Toxicology Information Service (HTIS)

Address:	2. Nagyvárad tér, Budapest, 1096, Hungary
Telephone:	+36 80 201 199
	+36 1 476 6464

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Determination of the product: mixture
Classification according to 1272/2008/EC regulation
Flam. Liq. 3 H226
The full text for all Classification and Hazard Statements is displayed in Section 16.

2.2. Label elements

Hazard pictogram:

Word of caution: Warning

Hazard statements:

H226 Flammable liqquid and vapour.

Precautionary statements:

P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.

Additional informations: Do not mix with other cleaning and disinfecting agents! The surface of an electrical device can only be disinfected after de-energizing!

2.3. Other hazards: None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Ingredients	EU-number	CAS-number	Conc. (%)	Classification 1272/2008/EK	Type
Ethyl-alcohol	200-578-6	64-17-5	<73	Flam. Liq. 2 H225	(2)
Alkyl (C12-C16) dimethylbenzylammonium chloride	270-325-2	68424-85-1	≤0,10	Acute Tox. 4, H302 Skin Corr. 1B H314 Aquatic Acute 1 H400 Aquatic Chronic1 H410 (M:10)	(1)

Type:

(1) Material classified according to health or environmental danger

(2) Material has occupational exposure limit

(3) Material meets the PBT criteria according to XIII. Annex of 1907/2006/EC decree

(4) Materials meet the vPvB criteria according to XIII. Annex of 1907/2006/EC decree

(5) Substance subject to authorization Annex XIV to Regulation (EC) No 1907/2006 Annex, or SVHC of particular concern. Occupational exposure limits, if available, are detailed in section 8.

REACH registration number:

Ethanol: 01-2119457610-43-0147

Alkyl (C12-C16) dimethylbenzylammonium chloride: 01-2119970550-39

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Remove the injured person to fresh air.

Skin contact: Remove contaminated clothing and footwear, wash affected skin area thoroughly with plenty of water.

Eye contact: Rinse the eyes with running water for at least 10 minutes, pulling the edges of the eyelids apart and constantly moving the eyeball. If symptoms persist for a long time, consult a specialist.

Ingestion**:** If swallowed, rinse mouth thoroughly, then drink plenty of water and seek medical advice immediately. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

No data is available on the product. See Section 11 for information on ingredients.

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

Treat symptomatically. No special treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: water spray, dry powder, alcohol-resistant foam, CO_2.

Unsuitable extinguishing media: strong jet water

5.2. Special hazards arising from the substance or mixture

Special hazards arising from the substance or mixture: Fire or heating may increase the pressure and cause the container to rupture. After dilution with a significant amount of water, the preparation loses its flammability.

Decomposition products may include the following materials: carbon dioxide, carbon monoxide.

5.3. Advice for firefighters

Protective measures: In the event of a large fire, wear protective clothing and self-contained breathing apparatus in a closed or poorly ventilated area.

Water spray or water mist may be used to cool containers exposed to fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Only emergency personnel can be on site, other people must be removed.

Personal precautions: Ensure adequate ventilation.

Sources of ignition and sparks must be removed.

6.2. Environmental precautions

Do not allow undiluted product or large quantities of it to enter drains, water courses or soil.

6.3. Methods and material for containment and cleaning up

Absorb large spills or spillage with inert absorbent material (sand, ground) and collect in closed, labeled container, kept away from heat and sources of ignition. Contaminated material must be disposed of in accordance with regulations.

6.4. Reference to other sections

Personal protection: Check SECTION 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from heat and sources of ignition. Avoid contact with eyes and inhalation of spray. Do not eat, drink or smoke during use. Do not mix with other cleaning and disinfecting agents.

7.2. Conditions for safe storage, including any incompatibilities

Store in the original, intact container, dry, cool, well-ventilated place away from sunlight and away from open flames and sources of ignition. Store away from food, out of reach of children. Keep containers closed until use, carefully close containers that have already been opened after use to prevent leakage.

7.3. Specific end use(s).

The uses specified in 1.2. section. Can be used for disinfecting smaller, alcohol-resistant surfaces.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Name of ingredient	Exposure threshold limit According to 5/2020. (II. 6.) ITM regulations
Ethyl-alcohol	TWA value: 1900 mg/m^3 STEL-value: 3800 mg/m^3

DNEL:

Alkyl (C12-C16) dimethylbenzylammonium chloride

Population	Route of exposure	Potential health effects	Value
Workers	Inhalation	Long-term, systemic effect	3,96mg/m^3
	Dermal	Long-term, systemic effect	5,7mg/kg bw/day
Consumers	Inhalation	Long-term, systemic effect	1,64mg/m^3
	Dermal	Long-term, systemic effect	3,4mg/kg bw/day
	Oral	Long-term, systemic effect	3,4mg/kg bw/day

PNEC:

Alkyl (C12-C16) dimethylbenzylammonium chloride

Environment	Value
Fresh water	0,0009mg/l
Sea water	0,00096mg/l
Periodic use/release	0,00016mg/l
Freshwater sediment	12,27mg/kg dry weight
Marine sediment	13,09 mg/kg dry weight
Sewage treatment plant	0,4mg/l
Soil	7mg/kg dry weight

8.2. Exposure controls

Personal protective equipment: No personal protective equipment required when the product is used properly and as directed.

General protective and hygiene measures: Avoid contact with eyes, ingestion and inhalation of vapors.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance:	colorless, clear liquid
b) Odour:	odorless, alcoholic odor
c) Odour threshold:	not specified for the mixture
d) pH:	7,0-8,0
e) Melting point/freezing point:	not specified for the mixture
f) Initial boiling point and boiling range:	not specified for the mixture
g) Flash point:	23°C
h) Evaporation rate:	not specified for the mixture
i) Flammability (solid, gas):	not applicable
j) Upper/lower flammability or explosive limits:	not specified for the mixture
k) Vapour pressure:	not specified for the mixture
l) Vapour density:	not specified for the mixture
m) Relative density:	0,870 – 0,885 g/cm^3
n) Solubility(ies):	Soluble with water in any concentration.
o) Partition coefficient n-octanol/water:	no data available
p) Auto-ignition temperature:	not self-igniting
q) Decomposition temperature:	not specified for the mixture
r) Viscosity:	not specified for the mixture
s) Explosive properties:	not explosive
t) Oxidising properties:	does not show oxidizing properties

9.2. Other informations: No further information is available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No specific data are available on the reactivity of this product or its ingredients.

10.2. Chemical stability

The product is stable at the required storage temperature under normal working conditions.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Sunlight, radiant heat, heating, ignition source, sparks, open flame.

10.5. Incompatible materials

Other cleaning and disinfecting agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Targeted toxicological studies have not been performed on the product. The human health assessment was made solely on the basis of its composition, the toxicological data for each component, the concentrations and classifications given in section 3, and the concentration limits of Regulation (EC) No 1272/2008.
The product is physically hazardous, flammable.

11.1. Information on toxicological effects

a) Acute toxicity: not specified for the mixture.

Substance(s):

Ingredients	Information
Alkyl (C12-C16) dimethylbenzylammonium chloride	Acute Tox. (oral): 1590mg/kg – calculation method LD_{50} (oral, rat): 795mg/kg – OECD 401 LD_{50} (dermal, skin): 3412mg/kg – OECD 401

b) Skin corrosion / irritation: not specified for the mixture.

Substance(s):

Ingredients	Information
Alkyl (C12-C16) dimethylbenzylammonium chloride	Causes severe burns.

c) Serious eye damage / eye irritation: not specified for the mixture.

Substance(s):

Ingredients	Information
Alkyl (C12-C16) dimethylbenzylammonium chloride	Causes serious eye damage.

d) Respiratory or skin sensitization: no special information available.

e) Germ cell mutagenicity: no special information available.

f) Carcinogenicity: no specific information available

g) Reproductive toxicity: no specific information available

h) Specific target organ toxicity - single exposure (STOT): no specific information available

i) Specific target organ toxicity - repeated exposure (STOT): no special information available

j) Aspiration hazard: no special information available

SECTION 12: Ecological information

Ecological studies have not been performed on the product. It has been assessed solely on the basis of its composition, the data for each component, the concentrations and classifications given in section 3, and the concentration limits of Regulation (EC) No 1272/2008.
The preparation is not classified as dangerous for the environment.

12.1. Toxicity: not specified for the mixture.

Substance(s):

Ingredients	Information
Alkyl (C12-C16) dimethylbenzylammonium chloride	Acute LC_{50} (fish, 96 hours) 0,515 mg/l – EPA OPP 72-1 Acute LC_{50} (daphnia, 48 hours) 0,016 mg/l – 440/2008/EK C.2. annex Acute EC_{50} (alga, 96 hours) 0,03 mg/l – OECD 201 NOEC (Pseudokirchneriella subcapitata, 96hours): 0,0025mg/l – OECD 201 Acute Chronic NOEC (Pimephales promelas, 28 days): 0,0322mg/l – U.S. EPA FIFRA 74-4(a) Acute Chronic NOEC (Daphnia magna, 21 days): 0,0125mg/l – OECD 211

12.2. Persistence and degradability: not specified for the mixture.

Substance(s):

Ingredients	Information
Alkyl (C12-C16) dimethylbenzylammonium chloride	Readily biodegradable Biodegradation: 95.5%, exposure time: 28 days - OECD 301 B

12.3. Bioaccumulative potential: not specified for the mixture.

Substance(s):

Ingredients	Information
Alkyl (C12-C16) dimethylbenzylammonium chloride	Log Pow 0,004 – OECD 107

12.4. Mobility in soil

Not specified for the mixture.

12.5. Results of PBT and vPvB assessment

Not applicable.

12.6. Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The treatment of product residues and packaging waste is governed by the European directives on waste and hazardous waste.

SECTION 14: Transport information

14.1. UN-number	1170
14.2. UN proper shipping name	Ethyl-alcohol solution
14.3. Transport hazard class(es)	3
14.4. Packing group	II.
14.5. Environmental hazards	none
14.6. Special precautions for user	none
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	not applicable

SECTION 15: Regulatory information

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

Considered European Union laws and regulations:

- Regulation (EC) No 1272/2008 on Classification, Labeling and Packaging of substances and mixtures (CLP Regulation)
- Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- REGULATION 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (Text with EEA relevance)
- Regulation (EU) 528/2012 on the marketing and use of biocidal products

Related Hungarian laws and regulations:

- 2000. year XXV. Act on Chemical Safety
- Decree 44/2000 (XII.27.) EüM on the detailed rules of certain procedures and activities related to dangerous substances and dangerous preparations
- 5/2020. (II. 6.) ITM Decree on the protection of the health and safety of workers exposed to chemical pathogens
- CLXXXV of 2012. Act on Waste Management
- Decree 72/2013 VM KöM on the list of wastes
- 225/2015 Government Decree on the conditions for carrying out activities related to hazardous waste
- 2015 LXXXIX. Act promulgating the consolidated text of Annexes A and B of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), as amended and supplemented in 2011

15.2. Chemical safety assessment No chemical safety report was prepared for the mixture.

SECTION 16: Other information

Abbreviations used in he safety data sheet:

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS:	Chemical Abstracts Service
COD:	Chemical Oxygen Demand
DNEL:	Derived No-Effect Level

EC_{50}	Half maximal effective concentration The concentration of a drug, antibody or toxicant which induces a response halfway between the baseline and maximum after a specified exposure time
HTIS	Health Toxicology Information Service
LC_{50}	Lethal Concentration for the 50 % of living organism.
LD_{50}	Lethal Dose the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals
LOAEL	Lowest Observed Adverse Effect Level
Log Kow:	Octanol-water partition coefficient
	The level of exposure to a substance above which humans should not be exposed
LogPow:	Octanol-water partition coefficient
NOAEL:	No-Observed-Adverse-Effect Level
NOEL:	No Observed Effect Level Concentration
NOEC:	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
PBT:	Persistent, Bioaccumulative, Toxic
PNEC	Predicted No Effect Concentration The concentration of a chemical which marks the limit at which below no adverse effects of exposure in an ecosystem are measured
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
TWA	Time weighted Average the average exposure to a contaminant to which workers may be exposed without adverse effect over a period such as in an 8-hour day or 40-hour week (an average work shift).
STEL	Short-Term Exposure Limit limit value above which exposure to a chemical substance should not occur and usually relates to a 15 minute reference period.
UN	four-digit numbers that identify hazardous materials, and articles (such as explosives, flammable liquids, oxidizers, toxic liquids, etc.) in the framework of international transport. Given by the United Nations
vPvB:	very Persistent, very Bioaccumulative

Full text of classifications:

Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment (acute)
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Flam Liq.	Flammable liquid
Skin Corr.	Skin corrosion

Full text of H-statements:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects.

Information for readers:

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The safety data sheet describes the product in terms of safety requirements. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

Changes to the previous release during the revision: 1.4., 8.1., 9.1., 16. sections and 10.3., 12.3., 12.5., 12.6. section titles were affected.

End of safety data sheet