

**BY PROTECT & SHINE 2L\_414940 - 4195351**

**SAFETY DATA SHEET**

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

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

**1.1. Product identifier**

Product name : BY PROTECT & SHINE 2L\_414940

Product code : 4195351.

UFI : SF52-C6RR-710K-SH93

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

Product for flocculation of swimming pool water.

**1.3. Details of the supplier of the safety data sheet**

Registered company name : BAYROL Deutschland GmbH (UK).

Address : Robert-Koch-Straße 4.82152.Planegg.GERMANY.

Telephone : +49 (0) 89 857 01-0. Fax : +49 (0) 89 857 01-276.

sds@bayrol.eu

www.bayrol.de

United Kingdom Legal Entity : Holt Lloyd International Limited Unit 100, Barton Dock RoadStretford, Manchester M32 0YQ

**1.4. Emergency telephone number : (+44)(0)1865407333.**

Association/Organisation : NCEC.

**Other emergency numbers**

Ireland : National Poisons Information Centre (+353)(0)18092166

Eitrunarmiðstöð Landspítalans (Icelandic University Hospital): 00 354 543 22 22

**SECTION 2 : HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**

**In compliance with EC regulation No. 1272/2008 and its amendments.**

Substance that is corrosive to metals, Category 1 (Met. Corr. 1, H290).

Skin corrosion, Category 1 (Skin Corr. 1, H314).

Serious eye damage, Category 1 (Eye Dam. 1, H318).

This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

**2.2. Label elements**

**In compliance with EC regulation No. 1272/2008 and its amendments.**

Hazard pictograms :



GHS05

Signal Word :

DANGER

Product identifiers :

CAS 16828-12-9      HYDRATED ALUMINUM SULFATE

Hazard statements :

H290      May be corrosive to metals.

H314      Causes severe skin burns and eye damage.

Precautionary statements - General :

P101      If medical advice is needed, have product container or label at hand.

P102      Keep out of reach of children.

Precautionary statements - Prevention :

P280      Wear protective gloves/eye protection

Precautionary statements - Response :

P305 + P351 + P338      IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.  
Precautionary statements - Storage :  
P405 Store locked up.  
Precautionary statements - Disposal :  
P501 Dispose of contents/ container to an approved waste disposal plant.

**2.3. Other hazards**

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC)  $\geq 0.1\%$  published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

The mixture does not contain substances  $\geq 0.1\%$  with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

**SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures****Composition :**

Identification	Classification (EC) 1272/2008	Note	%
CAS: 16828-12-9 REACH: 01-2119531538-36-XXXX HYDRATED ALUMINUM SULFATE	GHS05 Dgr Eye Dam. 1, H318		10 $\leq$ x % < 25
CAS: 7647-01-0 EC: 231-595-7 REACH: 01-2119484862-27-XXXX HYDROCHLORIC ACID	GHS05, GHS07 Dgr Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	B [1]	0 $\leq$ x % < 2.5

**Specific concentration limits:**

Identification	Specific concentration limits	ATE
CAS: 7647-01-0 EC: 231-595-7 REACH: 01-2119484862-27-XXXX HYDROCHLORIC ACID	Skin Corr. 1B: H314 $C \geq 25\%$ Skin Irrit. 2: H315 $10\% \leq C < 25\%$ Eye Dam. 1: H318 $C \geq 25\%$ Eye Irrit. 2: H319 $10\% \leq C < 25\%$ STOT SE 3: H335 $C \geq 10\%$	

**Information on ingredients :**

(Full text of H-phrases: see section 16)

[1] Substance for which maximum workplace exposure limits are available.

**SECTION 4 : FIRST AID MEASURES**

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

**4.1. description of first aid measures****In the event of splashes or contact with eyes :**

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

**In the event of splashes or contact with skin :**

Remove any soiled or splashed clothing immediately.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

In case of contact with skin wash off immediately with plenty of water.

**In the event of swallowing :**

Seek medical attention immediately, showing the label.

Rinse out mouth and give plenty of water to drink

Do not induce vomiting.

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

No data available.

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

**Information for the doctor :**

Treat symptoms.

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**SECTION 5 : FIREFIGHTING MEASURES**

Non-flammable.

**5.1. Extinguishing media**

**5.2. Special hazards arising from the substance or mixture**

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- sulphur dioxide (SO<sub>2</sub>)

**5.3. Advice for firefighters**

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply. Wear full protective clothing.

Additional information

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

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**SECTION 6 : ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

**For non first aid worker**

Avoid any contact with the skin and eyes.

**For first aid worker**

First aid workers will be equipped with suitable personal protective equipment (See section 8).

**6.2. Environmental precautions**

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

**6.3. Methods and material for containment and cleaning up**

Neutralise with an alkaline decontaminant, such as an aqueous solution of sodium carbonate or similar.

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

**6.4. Reference to other sections**

Safe handling: see section 7

Emergency telephone number: see section 1

Personal protection equipment: see section 8

Disposal: see section 13

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**SECTION 7 : HANDLING AND STORAGE**

Requirements relating to storage premises apply to all facilities where the mixture is handled.

**7.1. Precautions for safe handling**

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

**Fire prevention :**

Prevent access by unauthorised personnel.

**Recommended equipment and procedures :**

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

**Prohibited equipment and procedures :**

No smoking, eating or drinking in areas where the mixture is used.

**7.2. Conditions for safe storage, including any incompatibilities**

Do not store together with food.

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**Storage**

Keep out of reach of children.

Keep container tightly closed.

Storage: cool and dry

Storage stability

Storage time: 5 years.

**Packaging**

Always keep in packaging made of an identical material to the original.

**7.3. Specific end use(s)**

See section 1.2

**SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters**

No data available.

**Occupational exposure limits :**

- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
7647-01-0	-	-	5	7.6	-	-

- European Union (2022/431, 2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
7647-01-0	8	5	15	10	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7647-01-0			2 ppm	A4	

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7647-01-0	1 ppm 2 mg/m <sup>3</sup>	5 ppm 8 mg/m <sup>3</sup>			

- Germany - AGW (BAuA - TRGS 900, 02/2022) :

CAS	VME :	VME :	Excess	Notes
7647-01-0		2 ppm 3 mg/m <sup>3</sup>		2(I)

- Switzerland (Suva 2021) :

CAS	VME	VLE	Valeur plafond	Notations
7647-01-0	2 ppm 3 mg/m <sup>3</sup>	4 ppm 6 mg/m <sup>3</sup>		

**Derived no effect level (DNEL) or derived minimum effect level (DMEL):**

HYDROCHLORIC ACID ...% (CAS: 7647-01-0)

**Final use:**

Exposure method:

Potential health effects:

DNEL :

**Workers.**

Inhalation.

Long term local effects.

8 mg of substance/m<sup>3</sup>**8.2. Exposure controls****Personal protection measures, such as personal protective equipment**

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

**- Eye / face protection**

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

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In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

**- Hand protection**

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))

- Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :

Suitable materials (recommended: protection index 6, >480 minutes permeation time according to EN 374)

Nitrile-butadiene rubber (NBR) - 0.4 mm layer thickness

Butyl rubber (butyl) - 0.7mm layer thickness

In view of the many different types, the manufacturers' directions for use must be followed

**- Body protection**

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 to prevent skin contact.

Wear suitable protective clothing, in particular overalls and boots. These items must be kept in good condition and cleaned after use.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

**SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. Information on basic physical and chemical properties**

**Physical state**

Physical state : Fluid liquid.

**Colour**

Opaque

**Odour**

Odour threshold : Not stated.  
characteristic

**Melting point**

Melting point/melting range : Not specified.

**Freezing point**

Freezing point / Freezing range : Not stated.

**Boiling point or initial boiling point and boiling range**

Boiling point/boiling range : Not specified.

**Flammability**

Flammability (solid, gas) : Not stated.

**Lower and upper explosion limit**

Explosive properties, lower explosivity limit (%) : Not stated.

Explosive properties, upper explosivity limit (%) : Not stated.

**Flash point**

Flash point interval : Not relevant.

**Auto-ignition temperature**

Self-ignition temperature : Not specified.

**Decomposition temperature**

Decomposition point/decomposition range : Not specified.

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**pH**

pH : 1.87 .  
Strongly acidic.

pH (aqueous solution) : Not stated.

**Kinematic viscosity**

Viscosity : Not stated.

**Solubility**

Water solubility : Soluble.

Fat solubility : Not stated.

**Partition coefficient n-octanol/water (log value)**

Partition coefficient: n-octanol/water : Not stated.

**Vapour pressure**

Vapour pressure (50°C) : Not relevant.

**Density and/or relative density**

Density : 1.08 g/cm<sup>3</sup>

**Relative vapour density**

Vapour density : Not stated.

**9.2. Other information**

No data available.

**9.2.1. Information with regard to physical hazard classes**

No data available.

**9.2.2. Other safety characteristics**

No data available.

**SECTION 10 : STABILITY AND REACTIVITY**

**10.1. Reactivity**

Mixture which by chemical action can corrode and even destroy metals.

**10.2. Chemical stability**

This mixture is stable under the recommended handling and storage conditions in section 7.

**10.3. Possibility of hazardous reactions**

No data available.

**10.4. Conditions to avoid**

Avoid :

- frost
- humidity

**10.5. Incompatible materials**

Keep away from :

- strong oxidising agents
- bases

**10.6. Hazardous decomposition products**

The thermal decomposition may release/form :

- sulphur dioxide (SO<sub>2</sub>)

**SECTION 11 : TOXICOLOGICAL INFORMATION**

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

May cause irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following exposure for up to three minutes.

Corrosive reactions are typified by ulcers, bleeding, bloody scabs, and, by the end of observation at 14 days, by discolouration due to blanching of the skin, complete areas of alopecia, and scars.

**11.1.1. Substances**

**Acute toxicity :**

HYDRATED ALUMINUM SULFATE (CAS: 16828-12-9)

Oral route : LD<sub>50</sub> > 2000 mg/kg bodyweight/day

Dermal route : LD<sub>50</sub> > 50000 mg/kg bodyweight/day

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Species : Rabbit

Inhalation route (Dusts/mist) :

LC50 > 5 mg/l

Species : Rat

**Specific target organ systemic toxicity - repeated exposure :**

HYDRATED ALUMINUM SULFATE (CAS: 16828-12-9)

Oral route :

C = 114 mg/kg bodyweight/day

Species : Rat

Duration of exposure : 90 days

OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

**11.1.2. Mixture**

**Skin corrosion/skin irritation :**

Corrosive classification is based on an extreme pH value.

**Serious damage to eyes/eye irritation :**

Corrosive classification is based on an extreme pH value.

**11.2. Information on other hazards**

**Monograph(s) from the IARC (International Agency for Research on Cancer) :**

CAS 7647-01-0 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

**SECTION 12 : ECOLOGICAL INFORMATION**

**12.1. Toxicity**

**12.1.1. Substances**

HYDROCHLORIC ACID ...% (CAS: 7647-01-0)

Fish toxicity :

LC50 = 15.95 mg/l

Species : *Lepomis macrochirus*

Duration of exposure : 96 h

HYDRATED ALUMINUM SULFATE (CAS: 16828-12-9)

Fish toxicity :

LC50 > 1000 mg/l

Species : *Danio rerio*

Duration of exposure : 96 h

OECD Guideline 203 (Fish, Acute Toxicity Test)

Crustacean toxicity :

EC50 = 160 mg/l

Duration of exposure : 48 h

OECD Guideline 202 (*Daphnia* sp. Acute Immobilisation Test)

Algae toxicity :

members

Species : *Pseudokirchnerella subcapitata*

Duration of exposure : 72 h

OECD Guideline 201 (Alga, Growth Inhibition Test)

**12.1.2. Mixtures**

No aquatic toxicity data available for the mixture.

**12.2. Persistence and degradability**

**12.2.1. Substances**

Inorganic product, cannot be eliminated from the water by biological purification processes.

HYDROCHLORIC ACID ...% (CAS: 7647-01-0)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

HYDRATED ALUMINUM SULFATE (CAS: 16828-12-9)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

**12.6. Endocrine disrupting properties**

No data available.

**12.7. Other adverse effects**

No data available.

**SECTION 13 : DISPOSAL CONSIDERATIONS**

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

**13.1. Waste treatment methods**

Do not pour into drains or waterways.

**Waste :**

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

**Soiled packaging :**

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

**SECTION 14 : TRANSPORT INFORMATION**

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2023 - IMDG 2020 [40-20] - ICAO/IATA 2023 [64]).

**14.1. UN number or ID number**

3264

**14.2. UN proper shipping name**

UN3264=CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

(hydrated aluminum sulfate)

**14.3. Transport hazard class(es)**

- Classification :



8

**14.4. Packing group**

III

**14.5. Environmental hazards**

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**14.6. Special precautions for user**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	8	C1	III	8	80	5 L	274	E1	3	E

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ	Stowage Handling	Segregation
	8	-	III	5 L	F-A. S-B	223 274	E1	Category A SW2	SGG1 SG36 SG49

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	8	-	III	852	5 L	856	60 L	A3 A803	E1
	8	-	III	Y841	1 L	-	-	A3 A803	E1

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.



#### 14.7. Maritime transport in bulk according to IMO instruments

No data available.

### SECTION 15: Regulatory information

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

##### Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

##### Container information:

Packaging to be fitted with child-resistant fastenings (see EC Regulation No. 1272/2008, Annex II, Part 3).

Containers to be fitted with a tactile warning of danger (see EC Regulation No. 1272/2008, Annex II, Part 3).

The mixture does not contain any substance restricted under Annex XVII of Regulation (EC) No. 1907/2006 (REACH):  
<https://echa.europa.eu/substances-restricted-under-reach>.

##### Particular provisions :

No data available.

#### 15.2. Chemical safety assessment

No data available.

### SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

##### Wording of the phrases mentioned in section 3 :

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

##### Abbreviations and acronyms :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.  
LC50 : The concentration of a test substance resulting in 50% lethality in a given period.  
EC50 : The effective concentration of substance that causes 50% of the maximum response.  
ECr50 : The effective concentration of substance that causes 50% reduction in growth rate.  
REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.  
DNEL : Derived No-Effect Level  
UFI : Unique formulation identifier.  
STEL : Short-term exposure limit  
TWA : Time Weighted Averages  
TMP : French Occupational Illness table  
TLV : Threshold Limit Value (exposure)  
AEV : Average Exposure Value.  
ADR : European agreement concerning the international carriage of dangerous goods by Road.  
IMDG : International Maritime Dangerous Goods.  
IATA : International Air Transport Association.  
ICAO : International Civil Aviation Organisation  
RID : Regulations concerning the International carriage of Dangerous goods by rail.  
WGK : Wassergefährdungsklasse (Water Hazard Class).  
GHS05 : Corrosion  
PBT: Persistent, bioaccumulable and toxic.  
vPvB : Very persistent, very bioaccumulable.  
SVHC : Substances of very high concern.