

SAFETY DATA SHEET

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

1.1 Product identifier

- **UFI No:** 4A20-J098-800S-8JFJ
- Product Name: Non Chlorine Shock/Energize
- Product Part Number: 027
- Contains pentapotassium bis(peroxymonosulphate) bis(sulphate), potassium hydrogensulphate, dipotassium disulphate

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

- Use of the substance/mixture: Pool / spa treatment; Biocide
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Plastica Ltd
- Address of Supplier: Perimeter House
Napier Road
St Leonards-on-Sea
East Sussex
United Kingdom
TN38 9NY
- Telephone: +44 (0) 1424 857857
- Email: info@plasticapools.net

1.4 Emergency telephone number

- Emergency Telephone: 0800 043 0891 (technical)
0800 043 0892 (emergency)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Acute Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Aquatic Chronic 3, H412
- Additional information: For full text of Hazard and EU Hazard statements: see section 16

2.2 Label elements



- Signal Word: Danger
- Symbols: GHS05; GHS07
- Hazard statements
 - H302 - Harmful if swallowed.
 - H314 - Causes severe skin burns and eye damage.
 - H412 - Harmful to aquatic life with long lasting effects.
- Precautionary statements
 - P273 - Avoid release to the environment.
 - 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+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or

SECTION 2: Hazards identification (....)

doctor/physician.

P501 - Dispose of contents/container to an authorised waste collection point

- Supplemental Hazard information (EU)
EUH208 - Contains dipotassium peroxodisulphate. May produce an allergic reaction.

2.3 Other hazards

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1 Substances

- Not applicable

3.2 Mixtures

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL / OEL
Pentapotassium bis(peroxymonosulphate) bis(sulphate)	60 - 100 %	70693-62-8	274-778-7	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412	-	01-2119485567-22-XXXX	Yes
Potassium hydrogensulphate	1 - 5 %	7646-93-7	231-594-1	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	-	-	No
Dipotassium disulphate	1 - 5 %	7790-62-7	232-216-8	Skin Corr. 1A, H314 Eye Dam. 1, H318 Acute Tox. 3, H331	-	-	No
Dipotassium peroxodisulphate; potassium persulphate	≥ 1 - < 3 %	7727-21-1	231-781-8	Ox. Sol. 3, H272 Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Resp Sens. 1, H334 STOT SE 3, H335	-	01-2119495676-19-XXXX	No

SECTION 4: First aid measures

4.1 Description of first aid measures

- Rescuers should put on approved personal protective equipment (PPE) before administering first aid
- Rescuers should take suitable precautions to avoid becoming casualties themselves
- Contact with skin
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water
Contaminated clothing should be laundered before reuse
Get immediate medical advice/attention.
- Contact with eyes
If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes
Irrigate eyes thoroughly whilst lifting eyelids
Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.
- Ingestion
Rinse mouth with water (do not swallow)
Never give anything by mouth to an unconscious person
Do not induce vomiting

SECTION 4: First aid measures (....)

Get immediate medical advice/attention.

- Inhalation
Remove person to fresh air and keep comfortable for breathing.
If breathing is difficult, oxygen should be given by a trained person
Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

- Contact with eyes
Causes burning sensation
May cause severe damage with formation of corneal ulcers and permanent impairment of vision.
- Contact with skin
May cause severe burns with permanent skin damage which are slow to heal.
May cause allergic reaction in susceptible people
- Ingestion
Harmful if swallowed.
May cause burns to mouth and throat
May cause nausea/vomiting
May cause diarrhoea
- Inhalation
May cause allergic reaction in susceptible people
May cause respiratory irritation
May cause coughing and tightness of chest

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically
-

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media: Water spray; water fog; alcohol resistant foam; dry powder
- Unsuitable extinguishing media: High volume water jet; carbon dioxide

5.2 Special hazards arising from the substance or mixture

- Gives off irritating or toxic fumes (or gases) in a fire.
- Decomposition products may include sulphur oxides

5.3 Advice for firefighters

- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.
 - Keep container(s) exposed to fire cool, by spraying with water
 - Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
-

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- Rescuers should take suitable precautions to avoid becoming casualties themselves
 - Only trained and authorised personnel should carry out emergency response
 - Personal precautions for non-emergency personnel: Ensure adequate ventilation; Shut off all ignition sources; Avoid contact with skin and eyes; Wear protective clothing as per section 8; Do not breathe dust/fume/gas/mist/vapours/spray; Wash thoroughly after handling.
-

SECTION 6: Accidental release measures (....)

- Personal precautions for emergency responders: Evacuate the area and keep personnel upwind; Wear chemical protection suit; Wear self-contained breathing apparatus (SCBA)

6.2 Environmental precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Evacuate the area and keep personnel upwind
- Stop leak if safe to do so.
- Prevent formation of dust

- Small spills
 - Wipe up spillage with damp absorbent cloth or towel
- Large spills
 - Remove by mechanical means
 - Sweep or shovel-up spillage and remove to a safe place
 - Place in sealable container
 - Seal containers and label them
 - Seek expert advice for removal and disposal of all contaminated materials and wastes
 - Flush spill area with copious amounts of water

6.4 Reference to other sections

- See Section 8 & 13

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Ensure adequate ventilation
- Use local exhaust ventilation and/or enclosures.
- Keep away from heat and sources of ignition
- Minimize dust generation and accumulation
- Do not breathe dust
- Do not get in eyes, on skin, or on clothing.
- Do not eat, drink or smoke when using this product.
- Ensure eyewash stations and safety showers are nearby
- Wash thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Contaminated clothing should be laundered before reuse

7.2 Conditions for safe storage, including any incompatibilities

- Store in a cool, dry well-ventilated place. Keep container tightly closed.
- Protect from moisture
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep away from combustible material
- Keep away from food, drink and animal feedingstuffs
- Incompatible with strong acids and bases, hydrocarbons, cyanides, heavy metals and heavy metal salts, reducing agents

7.3 Specific end use(s)

- Pool / spa treatment

SECTION 8: Exposure controls/personal protection

SECTION 8: Exposure controls/personal protection (....)

8.1 Control parameters

- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- The UK HSE (EH40) recommends the following limits for dusts: 10 mg/m³ (8hr TWA) total inhalable dust; 4 mg/m³ (8hr TWA) total respirable dust
- Pentapotassium bis(peroxymonosulphate) bis(sulphate)
 - WEL (short term): 4 mg/m³ (resp dust)
 - DNEL (inhalational) 280 µg/m³ Industry, Long Term, Systemic Effects
 - DNEL (inhalational) 50 mg/m³ Industry, Acute/Short Term, Systemic Effects
 - DNEL (inhalational) 280 µg/m³ Industry, Long Term, Local Effects
 - DNEL (inhalational) 50 mg/m³ Industry, Acute/Short Term, Local Effects
 - DNEL (dermal) 20 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 - DNEL (dermal) 80 mg/kg (bw/day) Industry, Acute/Short Term, Systemic Effects
 - DNEL (dermal) 449 µg/cm² Industry, Acute/short Term, Local Effects
 - DNEL (inhalational) 140 µg/m³ Consumer, Long Term, Systemic Effects
 - DNEL (inhalational) 25 mg/m³ Consumer, Acute/Short Term, Systemic Effects
 - DNEL (inhalational) 140 µg/m³ Consumer, Long Term, Local Effects
 - DNEL (inhalational) 25 mg/m³ Consumer, Acute/Short Term, Local Effects
 - DNEL (dermal) 10 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - DNEL (dermal) 40 mg/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects
 - DNEL (dermal) 220 µg/cm² Consumer, Acute/Short Term, Local Effects
 - DNEL (oral) 10 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - DNEL (oral) 10 mg/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects
 - PNEC aqua (freshwater) 22 µg/L
 - PNEC aqua (intermittent releases, freshwater) 10.9 µg/L
 - PNEC aqua (marine water) 2.22 µg/L
 - PNEC (STP) 108 mg/L
 - PNEC sediment (freshwater) 78.2 µg/kg
 - PNEC sediment (marine water) 7.96 µg/kg
 - PNEC terrestrial (soil) 1 mg/kg
 - PNEC secondary poisoning (food) 44.4 mg/kg
- Potassium hydrogensulphate
 - No exposure limits have been set for this substance
- Dipotassium disulphate
 - DNEL (inhalational) 130 µg/m³ Industry, Long Term, Systemic Effects
 - DNEL (inhalational) 260 µg/m³ Industry, Acute/Short Term, Systemic Effects
 - DNEL (inhalational) 130 µg/m³ Industry, Long Term, Local Effects
 - DNEL (inhalational) 260 µg/m³ Industry, Acute/Short Term, Local Effects
 - DNEL (inhalational) 65 µg/m³ Consumer, Long Term, Systemic Effects
 - DNEL (inhalational) 130 µg/m³ Consumer, Acute/Short Term, Systemic Effects
 - DNEL (inhalational) 65 µg/m³ Consumer, Long Term, Local Effects
 - DNEL (inhalational) 130 µg/m³ Consumer, Acute/Short Term, Local Effects
 - PNEC aqua (freshwater) 680 µg/L
 - PNEC aqua (intermittent releases, freshwater) 6.8 mg/L
 - PNEC aqua (marine water) 68 µg/L
 - PNEC (STP) 800 mg/L
 - PNEC sediment (freshwater) 2.5 mg/kg

Revision: 21 December 2020

SECTION 8: Exposure controls/personal protection (....)

PNEC sediment (marine water) 250 µg/kg

PNEC terrestrial (soil) 92 µg/kg

- Dipotassium peroxodisulphate; potassium persulphate
 - DNEL (inhalational) 824 µg/m³ Industry, Long Term, Local Effects
 - DNEL (dermal) 10.3 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 - DNEL (inhalational) 421 µg/m³ Consumer, Long Term, Local Effects
 - DNEL (dermal) 5.2 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - DNEL (oral) 520 µg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - DNEL (oral) 1.55 mg/kg (bw/day) Consumer, Acute/Short Term, Systemic Effects
 - PNEC aqua (freshwater) 518 µg/l
 - PNEC aqua (intermittent releases, freshwater) 763 µg/l
 - PNEC aqua (marine water) 51.8 µg/l
 - PNEC (STP) 3.6 mg/l
 - PNEC sediment (freshwater) 2.03 mg/kg
 - PNEC sediment (marine water) 203 µg/kg
 - PNEC terrestrial (soil) 100 µg/kg

8.2 Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
 - Ensure adequate ventilation
 - Provide appropriate exhaust ventilation at places where airborne dust is generated
- Respiratory protection
 - In case of insufficient ventilation, wear suitable respiratory equipment
 - Use type FFP3 (EN 143) dust masks
- Skin protection
 - Wear suitable protective clothing
 - Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
 - The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
 - Glove material: butyl rubber
 - Thickness: 0.5 mm
 - Breakthrough time: >= 8 hours
 - Reference: Literature
- Eye/face protection
 - Wear goggles giving complete eye protection approved to standard EN 166.
 - If necessary, wear face-shield approved to standard EN 166 1B39N
- Hygiene measures
 - Do not eat, drink or smoke when using this product.
 - Wash thoroughly after handling.
 - Contaminated work clothing should not be allowed out of the workplace.
 - Contaminated clothing should be laundered before reuse
 - Ensure eyewash stations and safety showers are nearby
- Environmental exposure controls
 - Do not allow to enter public sewers and watercourses
 - Do not allow to penetrate the ground/soil.



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: White granules
- Odour: Odourless
- Odour threshold: No information available
- pH: (Diluted solution) 2.1 @ 3 %
- Melting point/freezing point: No information available
- Initial boiling point and boiling range: No information available
- Flashpoint: No information available
- Evaporation Rate: No information available
- Flammability (solid,gas): No information available
- Upper/lower flammability or explosive limits: No information available
- Vapour Pressure: 0.0000013 mm Hg @ 25 °C
- Vapour Density: No information available
- Relative Density: 2.35 @ 20 °C
- Solubility(ies): Soluble in water
- Partition Coefficient (n-Octanol/Water): No information available
- Autoignition Temperature: No information available
- Decomposition temperature: > 50 °C
- Viscosity: No information available
- Explosive Properties: Non-explosive
- Oxidising Properties: Not oxidising

9.2 Other information

- Bulk Density: 1100 - 1400 kg/m³
-

SECTION 10: Stability and reactivity

10.1 Reactivity

- Reacts with cyanides, metal salts, halogenated hydrocarbons

10.2 Chemical stability

- No decomposition if stored normally.

10.3 Possibility of hazardous reactions

- No information available

10.4 Conditions to avoid

- Do not allow dust to accumulate on surfaces and equipment
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Avoid contact with moisture

10.5 Incompatible materials

- Incompatible with combustible material
- Incompatible with strong acids and bases, hydrocarbons, cyanides, heavy metals and heavy metal salts, reducing agents

10.6 Hazardous decomposition products

- Decomposition products may include sulphur oxides
- Decomposition products include oxygen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity
Harmful if swallowed.
Classification based on calculation and concentration thresholds
ATE (oral) 555.56 mg/kg
ATE (inhalation) 60 mg/L
ATE (dermal) > 5 000 (rat)

Substances

Chemical Name	LD ₅₀ (oral, rat)	LC ₅₀ (inhalation, rat)	LD ₅₀ (dermal, rabbit)
Pentapotassium bis(peroxymonosulphate) bis(sulphate)	500 mg/kg	(4 h) 1.85 - 5 mg/L air	2 000 mg/kg bw (rat)
Potassium hydrogensulphate	2 000 - 2 140 mg/kg	No data available	No data available
Dipotassium disulphate	2 140 mg/kg	(4 h) 375 mg/m ³ air	No data available
Dipotassium peroxodisulphate; potassium persulphate	920 - 1 200 mg/kg	(4 h) 2.95 mg/L air	2 000 mg/kg bw (rat)

- Skin corrosion/irritation
Causes severe skin burns and eye damage.
Classification based on calculation and concentration thresholds
- Serious eye damage/irritation
Causes serious eye damage
Classification based on calculation and concentration thresholds
- Respiratory or skin sensitisation
This mixture is not classified as sensitising but contains at least one substance classified as sensitising and present in a concentration that may trigger an allergic reaction
- Germ cell mutagenicity
No evidence of mutagenic effects
- Carcinogenicity
No evidence of carcinogenic effects
- Reproductive toxicity
No evidence of reproductive effects

Substances

Chemical Name	NOAEL (oral, rat)
Dipotassium peroxodisulphate; potassium persulphate	30 mg/kg bw/day (rabbit) (Effect on developmental toxicity)

- Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met
- Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)

Revision: 21 December 2020

SECTION 11: Toxicological information (....)

Pentapotassium bis(peroxymonosulphate) bis(sulphate)	200 mg/kg bw/day	LOAEL 10.1 mg/m ³ air	No data available
Potassium hydrogensulphate	No data available	No data available	No data available
Dipotassium disulphate	No data available	300 µg/m ³ air	No data available
Dipotassium peroxodisulphate; potassium persulphate	131.5 mg/kg bw/day	10.3 mg/m ³ air	No data available

- Aspiration hazard
Based on available data, the classification criteria are not met
- Contact with eyes
May cause burning sensation
May cause severe damage with formation of corneal ulcers and permanent impairment of vision.
- Contact with skin
May cause severe burns with permanent skin damage which are slow to heal.
May cause allergic reaction in susceptible people
- Ingestion
Harmful if swallowed.
May cause burns to mouth and throat
May cause nausea/vomiting
May cause diarrhoea
- Inhalation
May cause allergic reaction in susceptible people
May cause respiratory irritation
May cause coughing and tightness of chest

SECTION 12: Ecological information

12.1 Toxicity

- H412: Harmful to aquatic life with long lasting effects
- Classification based on calculation and concentration thresholds

Substances

Chemical Name	LC ₅₀ (fish)	EC ₅₀ (aquatic invertebrates)	EC ₅₀ (aquatic algae)
Pentapotassium bis(peroxymonosulphate) bis(sulphate)	(4 days) 1.09 - 53 mg/L	(48 h) 3.5 mg/L	556 µg/L - 1 mg/L
Potassium hydrogensulphate	No data available	LC50 (48 h) 1.766 - 6.499 g/L	1.9 g/L
Dipotassium disulphate	(4 days) 680 mg/L	(48 h) 720 mg/L	(4 days) 1.492 g/L
Dipotassium peroxodisulphate; potassium persulphate	(4 days) 76.3 - 107.6 mg/L	(48 h) 120 mg/L	(72 h) 136 - 320 mg/L

12.2 Persistence and degradability

- Not applicable; inorganic

12.3 Bioaccumulative potential

- No information available

12.4 Mobility in soil

- Highly soluble in water

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII

SECTION 12: Ecological information (....)

- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- Do not empty into drains
-

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- This material and/or its container must be disposed of as hazardous waste
- Disposal should be in accordance with local, state or national legislation
- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- Do not reuse empty containers without commercial cleaning or reconditioning

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
 - Hazardous Property Code(s): HP 6 Acute Toxicity; HP 8 Corrosive; HP 14 Ecotoxic
-

SECTION 14: Transport information

14.1 UN number or ID number

- UN No.: 3260

14.2 UN proper shipping name

- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (pentapotassium bis (peroxymonosulphate) bis(sulphate), dipotassium disulphate)

14.3 Transport hazard class(es)

- Hazard Class: 8

14.4 Packing group

- Packing Group: II

14.5 Environmental hazards

- No information available

14.6 Special precautions for user

- No information available

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

14.8 Road/Rail (ADR/RID)

- ADR UN No.: 3260
- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (pentapotassium bis (peroxymonosulphate) bis(sulphate), dipotassium disulphate)
- ADR Hazard Class: 8
- ADR Packing Group: II
- Tunnel Code: E

14.9 Sea (IMDG)

- IMDG UN No.: 3260
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SECTION 14: Transport information (....)

- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (pentapotassium bis (peroxymonosulphate) bis(sulphate), dipotassium disulphate)
- IMDG Hazard Class: 8
- IMDG Pack Group.: II

14.10 Air (ICAO/IATA)

- ICAO UN No.: 3260
- Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (pentapotassium bis (peroxymonosulphate) bis(sulphate), dipotassium disulphate)
- ICAO Hazard Class: 8
- ICAO Packing Group: II

SECTION 15: Regulatory information

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe
- CAS 7646-93-7 is listed in Annex III of REACH as # Harmonised classification for skin corrosion: The substance is listed in Annex VI of CLP as: Skin Corr. 1B # Harmonised classification for specific target organ toxicity: The substance is listed in Annex VI of CLP as: STOT SE 3

15.2 Chemical safety assessment

- No information available

SECTION 16: Other information

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of PLASTICA'S limited knowledge and belief, accurate, and reliable as of the date of authorisation of this safety data sheet. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to be satisfied as to the suitability and completeness of such information for the product as used.

Sources of data: Information from published literature and supplier safety data sheets

Revision No. 2.0.0. Revised June 2017.

Changes made: Updated to conform to latest version of REACH

Revision No. 3.0.0. Revised December 2020.

Changes made: Updated formula and revisions to all sections

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

- Acute Tox. 4, H302: Classification based on calculation and concentration thresholds
- Skin Corr. 1B, H314: Classification based on calculation and concentration thresholds
- Eye Dam. 1, H318: Classification based on calculation and concentration thresholds
- Aquatic Chronic 3, H412: Classification based on calculation and concentration thresholds

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

- H272: May intensify fire; oxidizer
- H302: Harmful if swallowed
- H314: Causes severe skin burns and eye damage
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.

SECTION 16: Other information (....)

- H318: Causes serious eye damage
- H319: Causes serious eye irritation.
- H331: Toxic if inhaled
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335: May cause respiratory irritation
- H412: Harmful to aquatic life with long lasting effects
- EUH208: Contains (name of sensitising substance). May produce an allergic reaction

Acronyms

- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC₅₀: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC₅₀: Lethal Concentration, 50%
- LD₅₀: Lethal Dose, 50%
- NOAEC: No observed adverse effect concentration
- NOAEL: No observed adverse effect level
- NOEC: No observed effect concentration
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- SCL: Specific Concentration Limit
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---
