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Safety data sheet

according to 1907/2006/EC, Article 31 as amended

Printing date 25.10.2023

Version number 1

Revision: 25.10.2023

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

· 1.1 Product identifier

· Trade name: PowerFlush FX2

- · Registration number Mixture
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against
- Product category PC37 Water treatment chemicals
- \cdot Application of the substance / the mixture $\mbox{Descalant}$
- · Uses advised against

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Any use involving significant release of aerosol, vapour or dust in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).

Processes involving the use of incompatible substances - refer to section 10.

\cdot 1.3 Details of the supplier of the safety data sheet

• Manufacturer/Supplier: Kamco Limited Unit 9, Curo Park Frogmore, St Albans AL2 2DD United Kingdom

Tel: 01727 875020 Email: info@kamco.co.uk

• Further information obtainable from: Product safety department.

· 1.4 Emergency telephone number:

National Poisons Information Centre: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week) Healthcare Professionals: +353 (1) 809 2566 (24 hour service)

IN NORTHERN IRELAND: Members of the public should contact NHS Direct on 111.

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008
- The product is classified and labelled according to the CLP regulation.
- · Hazard pictograms GHS05
- · Signal word Danger
- \cdot Hazard-determining components of labelling:

Phosphoric acid

- · Hazard statements
- H314 Causes severe skin burns and eye damage.

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· Precautionary statements

P260 Do not breathe dusts or mists.

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.

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards

 \cdot Results of PBT and vPvB assessment

• **PBT:** Not applicable.

• **vPvB**: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

• Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:		
CAS: 7664-38-2	Phosphoric acid	25 - 50%
EINECS: 231-633-2	Skin Corr. 1B, H314	
Reg.nr.: 01-2119485924-24-XXXX	Note: B	
	Specific concentration limits: Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %	
CAS: 77-92-9	citric acid	10 - < 20%
EINECS: 201-069-1 Reg.nr.: 01-2119457026-42-XXXX	◆ Eye Irrit. 2, H319; STOT SE 3, H335	

• Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

\cdot 4.1 Description of first aid measures

· General information: Immediately remove any clothing soiled by the product.

· After inhalation:

In case of inhalation:

- Provide fresh air.
- In case of breathing difficulties administer oxygen.
- No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.
- Do not leave patient unattended.
- In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

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(Contd. of page 2) • After eye contact: Check for and remove any contact lenses. Rinse opened eye for several minutes under running water. Then consult a doctor. · After swallowing: Rinse out mouth and then drink plenty of water. Do not induce vomiting; call for medical help immediately. Drink plenty of water and provide fresh air. Call for a doctor immediately. • Information for doctor: Treat symptomatically and supportively. · 4.2 Most important symptoms and effects, both acute and delayed Corrosive damage to gastro-intestinal tract. · Hazards Danger of gastric perforation. Danger of pulmonary oedema. · 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available. **SECTION 5: Firefighting measures**

· 5.1 Extinguishing media

- Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire extinguishing methods suitable to surrounding conditions.
 For safety reasons unsuitable extinguishing agents: Water with full jet
- \cdot 5.2 Special hazards arising from the substance or mixture

Corrosive liquid.

In case of fire, the following can be released: Carbon monoxide (CO) Phosphorous oxides

- \cdot 5.3 Advice for firefighters
- **Protective equipment:** Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

- Wear fully protective suit.
- Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions:
- Do not allow to penetrate the ground/soil.
- Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up:
- Contain and collect spillage with non-combustible, absorbent material e.g.sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Lime slurry can be used to neutralize material (e.g. 10 - 50% potassium carbonate solution or 10 - 30% sodium carbonate solution).

- Ensure adequate ventilation.
- **6.4 Reference to other sections** See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Safety showers and eye wash facilities should be available at the work area.

· Information about fire - and explosion protection: Keep respiratory protective device available.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

- · Requirements to be met by storerooms and receptacles:
- Prevent any seepage into the ground.
- Store only in the original receptacle.
- Information about storage in one common storage facility: Store away from foodstuffs.

Do not store together with alkalis (caustic solutions).

• Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

· Storage class: 8 B

• 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit	values that rec	wire monitoring	at the workplace
Ingleatenes with mine	ratues that i co	and c monitoring	at the normplace.

7664-38-2 Phosphoric acid

OEL Short-term value: 2 mg/m³ Long-term value: 1 mg/m³

IOELV

· DNELs

7664-38-2 Phosphoric acid			
Oral	DNEL Long-term systemic effects	100 μg/kg bw/day (general population)	
Inhalative	DNEL Long-term systemic effects	4.57 mg/m ³ (general population)	
		10.7 mg/m ³ (worker)	
	DNEL Long-term local effects	1 mg/m ³ (worker)	
	DNEL Short-term local effects	2 mg/m ³ (worker)	
	DNEL Long-term local effects	360 μg/m ³ (general population)	

• Additional information: The lists valid during the making were used as basis.

- · 8.2 Exposure controls
- Appropriate engineering controls No further data; see section 7.
- · Individual protection measures, such as personal protective equipment
- Select PPE appropriate for the operations taking place taking into account the product properties.
- \cdot General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

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Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

Ensure that eyewash stations and safety showers are close to the workstation location.

• Respiratory protection: Use suitable respiratory protective device in case of insufficient ventilation.

· Hand protection



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation \cdot Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye/face protection



Tightly sealed goggles conforming to EN166.

· Body protection:



Protective work clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical p	roperties
· General Information	
· Physical state	Fluid
· Colour:	Red-Pink
· Odour:	Slightly sweetish
· Odour threshold:	Not determined.
 Melting point/freezing point: 	Undetermined.
· Boiling point or initial boiling point and boiling	
range	>100 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Decomposition temperature:	Not determined.

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· pH at 20 °C	1 (10%)	
· Viscosity:		
Kinematic viscosity	Not determined.	
Dynamic:	Not determined.	
Solubility		
water:	Fully miscible.	
Partition coefficient n-octanol/water (log value		
• Vapour pressure at 20 °C:	23 hPa (7732-18-5 Water)	
Density and/or relative density		
Density at 20 °C:	1.3 g/cm ³	
Relative density	Not determined.	
· Vapour density	Not determined.	
	Not determined.	
9.2 Other information		
Appearance:		
Form:	Liquid	
Important information on protection of health	and	
environment, and on safety.		
Ignition temperature:	Product is not self-igniting.	
Explosive properties:	Product does not present an explosion hazard.	
Solvent content:		
VOC (EC)	0.00 %	
Change in condition		
Evaporation rate	Not determined.	
Information with regard to physical hazard cla	25595	
• Explosives	Void	
Flammable gases	Void	
Aerosols	Void	
• Oxidising gases	Void	
Gases under pressure	Void	
Flammable liquids	Void	
A	Void Void	
Flammable solids		
Self-reactive substances and mixtures	Void	
Pyrophoric liquids	Void	
Pyrophoric solids	Void	
Self-heating substances and mixtures	Void	
Substances and mixtures, which emit flammab		
gases in contact with water	Void	
• Oxidising liquids	Void	
• Oxidising solids	Void	
· Organic peroxides	Void	
• Corrosive to metals	Void	
Desensitised explosives	Void	

SECTION 10: Stability and reactivity

 \cdot 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

 \cdot 10.3 Possibility of hazardous reactions Reacts with metals forming hydrogen.

 \cdot 10.4 Conditions to avoid Heat and static discharge.

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· 10.5 Incompatible materials: Strong bases.

· 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Phosphorus oxides (e.g. P2O5)

No dangerous decomposition products known.

SECTION 11: Toxicological information

- 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 • Acute toxicity Based on available data, the classification criteria are not met.
- · Acute toxicity Based on available data, the classification criteria are not met

· LD/LC50 values relevant for classification:

7664-38-2 Phosphoric acid

Dermal LD50 2,740 mg/kg (rabbit)

77-92-9	citric acid	•
Oral	LD50	5,400 mg/kg (mouse)
Dermal	LD50	> 5,000 mg/kg (rat)

Dermal	LD50	> 5,000 mg/kg (rat
Inhalative	LC50/4 h	> 5 mg/l (rat)

· Skin corrosion/irritation

Causes severe skin burns and eye damage.

· Serious eye damage/irritation Causes serious eye damage.

- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure Based on available data, the classification criteria are not met.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.
- · Additional toxicological information:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

· 11.2 Information on other hazards

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

Aquatic toxicity:

77-92-9 citric acid

EC50 (96 h) 100 mg/l (Fish)

EC50 (48 h) 50 mg/l (Bacteria)

• 12.2 Persistence and degradability The organic portion of the product is biodegradable.

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- 12.3 Bioaccumulative potential Product is not expected to bioaccumulate.
- · 12.4 Mobility in soil No further relevant information available.
- \cdot 12.5 Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · vPvB: Not applicable.
- · 12.6 Endocrine disrupting properties
- The product does not contain substances with endocrine disrupting properties.
- · 12.7 Other adverse effects
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Recommended Hierarchy of Controls:

- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· Uncleaned packaging:

· Recommendation:

Container remains hazardous when empty. Continue to observe all precautions.

Disposal must be made according to official regulations.

Do not mix with other waste streams.

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

• Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information		
		14.1 UN number or ID number ADR/RID/ADN, IMDG, IATA
IQUID, ACIDIC OSPHORIC ACID		14.2 UN proper shipping name ADR/RID/ADN
DIC, INORGANIC		IMDG, IATA
		IMDG, IATA



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· 14.3 Transport hazard class(es)		
· ADR/RID/ADN, IMDG, IATA		
· Class	8 Corrosive substances.	
· Label	8	
· 14.4 Packing group · ADR/RID/ADN, IMDG, IATA	Ш	
· 14.5 Environmental hazards:	Not applicable.	
 14.6 Special precautions for use Hazard identification number (er Warning: Corrosive subs	stances.
· EMS Number:	F-A,S-B	
· Segregation groups	(SGG1) Acids	
· Stowage Category	B	
· Stowage Code	SW2 Clear of living qua	
· Segregation Code	SG36 Stow "separated fr	
	SG49 Stow "separated fi	rom" SGG6-cyanides
• 14.7 Maritime transport in bull instruments	k according to IMO Not applicable.	
· Transport/Additional informat	ion:	
· ADR/RID/ADN		
· Limited quantities (LQ)	5L	
· Excepted quantities (EQ)	Code: E1	
		er inner packaging: 30 ml
Transport astagowy		er outer packaging: 1000 ml
Transport category Tunnel restriction code	3 E	
	~	
· IMDG · Limited quantities (LQ)	5L	
• Excepted quantities (EQ)	Code: E1	
		er inner packaging: 30 ml
		per outer packaging: 1000 ml
· UN "Model Regulation":	UN 3264 CORROS	SIVE LIQUID, ACIDI
0 · · · · · ·	INORGANIC, N.O.S	S. (PHOSPHORIC ACI
	SOLUTION), 8, III	

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

 \cdot Named dangerous substances - ANNEX I None of the ingredients is listed.

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• REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

conditions of restriction: 5

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

• Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· Training hints

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

- · Department issuing SDS: Product safety department.
- · Date of previous version: 25.10.2023

• Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- DNEL: Derived No-Effect Level (REACH)

LC50: Lethal concentration, 50 percent

- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

- Eye Irrit. 2: Serious eye damage/eye irritation Category 2 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- * Data compared to the previous version altered.

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Annex: Exposure scenario

- Product category PC37 Water treatment chemicals
- Description of the activities / processes covered in the Exposure Scenario See section 1 of the annex to the Safety Data Sheet.
- · Conditions of use
- · Duration and frequency 5 workdays/week.
- · Physical parameters
- · Physical state Fluid
- · Concentration of the substance in the mixture The substance is main component.
- · Other operational conditions
- · Other operational conditions affecting environmental exposure No special measures required.
- · Other operational conditions affecting worker exposure
- Avoid contact with eyes.
- Avoid contact with the skin.
- · Other operational conditions affecting consumer exposure No special measures required.
- · Other operational conditions affecting consumer exposure during the use of the product Not applicable.
- · Risk management measures
- · Worker protection
- · Organisational protective measures No special measures required.
- · Technical protective measures Ensure that suitable extractors are available on processing machines
- · Personal protective measures

Do not inhale gases / fumes / aerosols.

- Avoid contact with the skin.
- Avoid contact with the eyes.
- Tightly sealed goggles conforming to EN166.
- Protective gloves.
- Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Measures for consumer protection Ensure adequate labelling.

- Environmental protection measures
- · Water

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

- Disposal measures Ensure that waste is collected and contained.
- · Disposal procedures
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- Waste type Partially emptied and uncleaned packaging
- · Exposure estimation
- Consumer Not relevant for this Exposure Scenario.
- · Guidance for downstream users No further relevant information available.

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