

# Orbis C Safety Data Sheet

<b>1.0 Identification of the substance/mixture and of the company/undertaking</b>	
<b>1.1 Product Identifier</b>	
Product Name	Paxman Orbis C
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	
Identified Uses	Low viscosity non-toxic antifreeze and secondary refrigerant based on potassium formate with inhibitor functions designed for use in process cooling, refrigeration and HVAC systems
Uses advised against	This product is not recommended for any industrial, professional or consumer use other than the identified uses above.
<b>1.3 Details of the supplier of the safety data sheet</b>	
Supplier	Paxman Coolers Ltd. International House, Penistone Road, Fenay Bridge, Huddersfield, HD8 0LE, United Kingdom  +44 (0) 1484 349 444 info@paxmanscalpcooling.com
<b>1.4 Emergency Telephone Number</b>	
Emergency telephone number	+44 (0) 1484 349 444
Opening Hours	Open: Mon-Thu 9.30am-4.30pm GMT & Fri 9.30am-4pm GMT
First aid advice number	For emergencies that occur outside of office opening hours that pose a threat to human health, the environment or require immediate first aid advice call: +44 (0) 1792 572296 (24HOUR)
NOTE	This number is for emergencies only.
<b>2.0 Hazards Identification</b>	
<b>2.1 Classification of the substance or mixture</b>	
Classification - Regulation (EC) No. 1272/2008 (CLP)	
Physical and chemical hazards	Not classified as a physical or chemical hazard
Human Health	Not classified as a health hazard.
Environment	Not classified as an environmental hazard.
<b>2.2 Label Elements</b>	
EC No.	N/A
Labelling - Regulation (EC) No. 1272/2008 (CLP)	Not classified as hazardous according to CLP Regulation (EC) No. 1272/2008 - no hazard label elements required.
<b>2.3 Other Hazards</b>	
This product does not meet the PBT/vPvB criteria of REACH, annex XIII.	

<b>3.0 Composition/Information on Ingredients</b>	
<b>3.1 Mixtures</b>	
Component - Potassium formate	Concentration (% w/v) 10-30% EC No. 209-677-9 CAS No. 590-29-4 Reach registration No. 01-2119486456-26-XXXX
Classification - Regulation (EC) No. 1272/2008 (CLP)	Not classified as hazardous according to Regulation (EC) No. 1272/2008 (CLP)

<b>4.0 First Aid Measures</b>	
<b>4.1 Description of first aid measures</b>	
General Information	When safe to do so remove the victim from the source of exposure giving consideration as to whether this may cause further discomfort to the victim.
Inhalation	Move the affected person to fresh air. Get medical attention if any discomfort continues.
Ingestion	Do not give an emetic or induce vomiting. Rinse mouth thoroughly with water. Move the affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Skin Contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye Contact	Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues..
<b>4.2 Most important symptoms and effects, both acute and delayed</b>	
Inhalation	No expected adverse symptoms.
Ingestion	There may be irritation of the throat.
Skin Contact	There may be mild irritation at the site of contact.
Eye Contact	There may be irritation and redness.
<b>4.3 Indication of any immediate medical attention and special treatment needed</b>	
No specific recommendations given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, get medical attention promptly and present a copy of this Safety Data Sheet.	
Notes for the doctor	No specific recommendations. Treat symptomatically.

<b>5.0 Fire Fighting Measures</b>	
<b>5.1 Extinguishing Media</b>	
Extinguish with alcohol-resistant or polymer foam, carbon dioxide (CO <sub>2</sub> ) or dry chemical powder..	
<b>5.2 Special hazards arising from the substance or mixture</b>	
Specific Hazards	When heated and in the case of a fire, harmful vapours/gases (such as carbon monoxide and carbon dioxide) may be formed.
Unusual fire and explosion hazards	No unusual fire or explosion hazards known..

<b>5.3 Advice for fire fighters</b>	
Protective actions during firefighting	<p>Move containers away from fire area if this can be done without risk.</p> <p>Keep people away, isolate the fire and deny unnecessary entry.</p> <p>Use water fog to keep fire-exposed containers cool and disperse vapours.</p> <p>Runoff water should be prevented from entering sewers and watercourses.</p>
Specialist protective equipment for firefighters	Wear self contained breathing apparatus.

## 6.0 Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this Safety Data Sheet.
Protective Equipment	Wear protective clothing as described in Section 8 of this Safety Data Sheet.
Emergency Procedures	Stop leak/release if possible to do so without risk.

### 6.2 Environmental protections

Do not discharge into drains, water courses or onto the ground.  
Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

### 6.3 Methods and material for containment and cleaning up

Absorb spillage with inert, damp, non-combustible material, then flush the contaminated area with water.  
Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

### 6.4 Reference to other sections

Wear protective clothing as described in Section 8 of this Safety Data Sheet. Collect and dispose of spillage as indicated in Section 13.

## 7.0 Handling and Storage

### 7.1 Precautions for safe handling

Avoid spilling and contact with the skin and the eyes as well as direct inhalation of sprays and mists.  
Provide good ventilation.  
Do not eat, drink or smoke in work areas and wash hands after handling this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in tightly-closed, original containers.  
Keep separate from food, feedstuffs, fertilisers and other sensitive material.  
Do not store near heat sources or expose to high temperatures.  
Keep away from heat, sparks and open flame.

### 7.3 Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

## 8.0 Exposure Controls/Personal Protection



<b>8.1 Control parameters</b>	
Name	Potassium formate
STD	WEL
TWA-8Hrs	Not available
STEL-15Min	Not available
DNEL	No DNEL data available.
PNEC	No PNEC data available.
<b>8.2 Exposure Controls</b>	
Technical procedures	
Engineering measures	Methods to prevent or control exposure are preferred. Provide adequate ventilation to minimise the risk of inhalation of sprays and mists.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling this product and at the end of each work shift. Routinely wash work clothing and personal protective equipment to remove possible contaminants.
Respiratory equipment	No special precautions are needed unless mists of the product are generated in which case a respirator must be worn.
Hand protection	PVC/butyl rubber/neoprene gloves are recommended.
Eye protection	Wear approved chemical goggles or face shield.
Skin Protection	Overalls should be worn.
Other Protection	Wear suitable protective clothing/footwear as protection against splashing or contamination.
Thermal Hazards	No specific measures required.
Environmental Exposure Controls	Product not classified as an environmental hazard - no specific environmental exposure controls required.

## 9.0 Physical and Chemical Properties

### 9.1 Physical and chemical properties

Appearance	Clear liquid
Colour	Purple
Odour	Negligible odour
Odour Threshold	Not applicable
pH	7.5 - 9.0 depending on inhibitor formulation
Melting point / Pour point	-60°C (potassium formate @ 70% wt/wt)
Initial boiling point	>100°C
Flash point	>100°C
Evaporation Rate	No test data available
Flammability	Not applicable
Flammability / explosion limits	Not applicable
Vapour pressure	No test data available
Vapour density (air = 1)	No test data available
Relative density of the mixture	1.14-1.30
Solubility	Soluble in water

Partition coefficient: n-octanol / water Auto-ignition temperature Decomposition temperature Viscosity Explosive properties Oxidising properties	No test data available > 300°C No test data available See product data sheet Not applicable - product is not classified as an explosive Not applicable - product is not classified as an oxidising agent
<b>9.2 Other information</b>	
Not determined.	

## 10.0 Stability and Reactivity

### 10.1 Reactivity

Strong oxidising agents. Strong acids.

### 10.2 Chemical stability

Stable

### 10.3 Possibility of hazardous reactions

There are no known hazardous reactions associated with this product.

### 10.4 Conditions to avoid

Heat.

### 10.5 Incompatible materials

Avoid strong oxidising agents. Strong acids.

### 10.6 Hazardous decomposition products

No decomposition if used and stored according to specifications.

## 11.0 Toxicological Information

### 11.1 Information on toxicological effects

Acute toxicity	LD50, oral, mouse: 5500 mg/kg LD50, dermal, rat: >2000 mg/kg bw
Skin corrosion/ irritation Serious eye damage/ irritation Respiratory/ skin sensitisation Germ cell mutagenicity Carcinogenicity Reproductive toxicity Evaluation of CMR properties STOT-single exposure STOT-repeated exposure Aspiration hazard	Skin irritation is not expected when this product is used/handled correctly. Eye irritation is not expected when this product is used/handled correctly. Product not classified as a skin/respiratory sensitiser. Product is not expected to be mutagenic. Product is not expected to be carcinogenic. Product is not expected to damage the reproductive system or harm a developing fetus. No test data available. No test data available. No test data available. No test data available.
General information	See Section 4.2 of this Safety Data Sheet.
Inhalation Ingestion Skin contact Eye contact	No expected adverse symptoms. There may be irritation of the throat. There may be mild irritation at the site of contact. There may be irritation and redness.

12.0 Ecological Information	
<b>Ecotoxicity</b>	
The product is not classified as hazardous to the environment.	
<b>12.1 Toxicity</b>	
LC50, 96 hours, fish: EC50, 48 hours, daphnia magna: EC50, 96 hours, aquatic plants:	>100 mg/L - not classified as harmful to fish >100 mg/L - not classified as harmful to daphnia >100 mg/L - not classified as harmful to aquatic plants
<b>12.2 Persistence and degradability</b>	
This product is readily biodegradable (92% over 28 days).	
<b>12.3 Bioaccumulative potential</b>	
Will not bioaccumulate.	
<b>12.4 Mobility in soil</b>	
Product is mobile in soil as it is water soluble.	
<b>12.5 Results of PBT and vPvB assessment</b>	
This product does not meet the PBT/vPvB criteria of REACH, annex XIII.	
<b>12.6 Other adverse effects</b>	
Not determined.	
13.0 Disposal Consideration	
General information	Small spillages: Wash to the trade effluent if consents are in place with local water companies. Ensure that local water consents are met. Large spillages: The material should be sent to a specialised waste contractor for disposal.
Disposal methods	Dispose of waste and residues in accordance with local authority and/or local sewage treatment plant requirements.
14.0 Transport Information	
<b>14.1 UN number</b>	
Product not hazardous for transport - no information required.	
<b>14.2 UN proper shipping name</b>	
Product not hazardous for transport - no information required.	
<b>14.3 Transport hazard class(es)</b>	
Product not hazardous for transport - no information required.	
Transport labels	Product not hazardous for transport - no information required.
<b>14.4 Packing group</b>	
Product not hazardous for transport - no information required.	
<b>14.5 Environmental hazards</b>	
Product not classed as an environmentally hazardous substance or marine pollutant.	
<b>14.6 Special precautions for user</b>	
Product not hazardous for transport - no information required.	

Orbis C Safety Data Sheet

<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>
Product not hazardous for transport - no information required.

**15.0 Regulatory Information**

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

EU Legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as amended, incorporating all amendments up to, and including, Regulation (EC) No 588/2018 and Regulation (EC) No 589/2018. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures as amended, incorporating all amendments up to, and including, Regulation (EC) No 776/2017.
Guidance notes	CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131. Safety Data Sheets for substances and preparations.

**15.2 Chemical Safety Assessment**

No chemical safety assessment for this mixture has been carried out.
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**16.0 Other Information**

Issued by	Paxman Scalp Cooling
Revision Date	01/06/2021
Approved by	Dylan Redwood (Hydratech)
Revision Comments	Review in line with CLP regulation
Hazard statements in full	N/A
Further classification and composition comments	None.

**(i) Indication of changes**

SDS Reviewed for compliance. No changes made.
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**(ii) Abbreviations and acronyms**

<p>bw: bodyweight  CAS No: Chemical Abstracts Service number  CLP: Classification Labelling and Packaging Regulation  DNEL: Derived No-Effect Level  EC: European Commission  EC No: European Chemical number: EINECS, ELINCS or NLP  ECHA: European Chemicals Agency  EINECS: European Inventory of Existing Commercial Chemical Substances  ELINCS: European List of Notified Chemical Substances  LC50: Lethal Concentration, 50%  LD50: Median Lethal Dose  PBT: Persistent, Bioaccumulative &amp; Toxic  PNEC: Predicted No Effect Concentration  REACH: Registration, Evaluation, Authorisation &amp; restrictions of Chemicals  SDS: Safety Data Sheet  vPvB: Very Persistent and Very Bioaccumulative  WEL: Workplace Exposure Limit</p>
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**(iii) Training advice**

Product should only be handled by trained operators.
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**(iv) Training advice**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give advice about the safe handling of the product named in this Safety Data Sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with products or in the case of processing, the information on this Safety Data Sheet is not necessarily valid for the new made-up material.