



MAYHEMS SAFETY DATA SHEET

Mayhems Hades Plus

1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product Identifier:** Mayhems Hades Plus
- 1.2 Intended Use:** Fast acting, non-oxidising biocide formulated to rapidly neutralise a broad spectrum of bacteria and algae found in cooling and heating systems.
- Uses Advised Against:** This product is not recommended for any industrial, professional or consumer use other than the identified uses above
- 1.3 Manufacturer/Supplier:** Mayhems
Address: Unit 4 Flanshaw Business Park, Kelly Way, Wakefield, United Kingdom, WF2 9FR
- 1.4 Emergency Telephone No:** +44 0800 048 7045 (09:00 am - 05:00 pm)
Email: support@mayhems.co.uk

2. HAZARD IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification – Regulation (EC) No. 1272/2008 (CLP)

Physical and Chemical Hazards: Not classified as a physical or chemical hazard
Human Health: Eye Irrit. 2 – H319, Skin Sens. 1 – H317
Environment: Aquatic Chronic 3 – H412

2.2 Label Elements

Labelling – Regulation (EC) No. 1272/2008 (CLP)



Signal Word: Warning



Hazard Statements:

- H317 – May cause an allergic skin reaction
- H319 – Causes serious eye irritation
- H412 – Harmful to aquatic life with long lasting effects

Precautionary Statements:

- P264 - Wash hands thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed outside of the workplace.
- P273 - Avoid release to the environment.
- P280 - Wear protective clothing/protective gloves/eye protection/face protection.
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313 - If eye irritation persists: Get medical advice/attention

2.3 Other Hazards

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

3. COMPOSITION, INFORMATION, AND INGREDIENTS

COMPONENT	CAS no	EINECS	Concentration (% w/v)	REACH Registration No.
THPS	55566-30-8	259-709-0	<3%	01-2120761569-40-XXXX

Classification – Regulation (EC) No.1272/2008 (CLP)

- Acute Tox. 4 – H302
- Skin Sens. 1 – H317
- Eye Dam. 1 – H318
- Aquatic Acute 1 – H400
- Aquatic Chronic 2 – H411
- Acute Tox. 3 – G331

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

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: personnel may assist the victim by supplying oxygen to ease breathing Move the affected person to fresh air at once. Keep warm in a position comfortable for breathing. If breathing becomes difficult, properly trained. Get medical attention if any discomfort continues or if victim feels unwell.



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Ingestion:	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues or if victim feels unwell.
Skin Contact:	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye Contact:	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

General Information:	The following symptoms are listed in case of exposure to the 100% neat product.
Inhalation:	Inhalation of vapours may cause irritation of the upper respiratory tract.
Ingestion:	May cause discomfort to the stomach if swallowed.
Skin Contact:	Contact may cause irritation of the skin. Contact may also cause an allergic skin reaction.
Eye Contact:	Direct contact will cause serious irritation/soreness and reddening – rinse immediately with water.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

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:

As per Section 3 of this Safety Data Sheet, product contains 2.5-3% wt/wt tetrakis (hydroxymethyl) phosphonium sulphate – treat symptoms accordingly.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Extinguish with alcohol-resistant foam, carbon dioxide (CO₂), dry chemicals, sand and dolomite or water fog.

5.2 Special Hazards Arising from the Substance or Mixture



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Specific Hazards: When heated and in the case of a fire, harmful/irritant vapours/gases such as oxides of carbon, sulphur and phosphorus may be formed.

Unusual Fire and Explosion Hazards: No known unusual fire/explosion hazards.

5.3 Advice for Firefighters

Protective Actions During Firefighting: Move containers away from fire area if this can be done without risk. Keep people away, isolate the fire and deny unnecessary entry. Use water fog to keep fire-exposed containers cool and disperse vapours. Runoff water should be prevented from entering sewers and watercourses.

Specialist Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and full protective clothing.

6. ACCIDENTAL RELEASE OF MATERIAL

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Personal Precautions: Avoid flames, sparks, heat and smoking. In the case of inadequate ventilation, use respiratory protection.

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. Extinguish all ignition sources if safe to do so. Warn everybody of potential danger and evacuate if necessary.

6.2 Environmental Precautions

Do not discharge into drains, water courses or onto the ground. Product classified as harmful to aquatic life with long lasting effects, care should be taken when handling and should not be stored where accidental spillage could release this product into the environment. 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. Containers with collected spillage should be appropriately labelled with the correct contents and hazard labels. 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. 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. Wear suitable eye protection. 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. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control Parameters

Name	STD	TWA - 8 Hrs	STEL - 15 Min	DNEL	PNEC
THPS	WEL	Not Available	Not available	No DNEL data available	No PNEC data available

8.2 Exposure Controls



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.



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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:	If ventilation is inadequate, suitable respiratory protection must be worn.
Hand protection:	PVC/butyl rubber/neoprene gloves are recommended.
Eye protection:	Wear approved chemical goggles or face shield.
Skin Protection:	Wear rubber apron or protective clothing in case of contact
Other Protection:	Wear suitable protective clothing/footwear as protection against splashing or contamination.
Thermal Hazards:	No specific measures required.
Environmental Exposure Controls:	Product classified as harmful to aquatic life with long lasting effects, care should be taken when handling and should not be stored where accidental spillage could release this product into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1: Physical and Chemical Properties

Appearance:	Clear liquid
Colour:	Pale yellow
Odour:	Non-pungent but characteristic aroma
Odour Threshold:	Not applicable
pH:	3-6
Melting Point / Pour Point:	<-20°C
Initial Boiling Point:	>105°C
Flash Point:	No test data available
Evaporation Rate:	No test data available
Flammability:	Product not classified as flammable
Flammability/Explosion Limits:	No test data available
Vapour Pressure:	No test data available
Vapour Density (air = 1):	No test data available
Relative Density of the Mixture:	1.01 - 1.1
Solubility:	Soluble in water
Partition Coefficient: n-octanol / water:	No test data available
Auto-ignition Temperature:	No test data available
Decomposition Temperature:	No test data available



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Viscosity:	See product data sheet
Explosive properties:	Not applicable - product is not classified as an explosive
Oxidising Properties:	Not applicable - product is not classified as an oxidising agent

9.2 Other Information

Not determined.

10. STABILITY AND REACTIVITY

10.1 Reactivity:	There are no known reactivity hazards associated with this product.
10.2 Chemical Stability:	Stable at normal ambient temperatures and when used as recommended
10.3 Possibility of Hazardous Reactions:	There are no known hazardous reactions associated with this product.
10.4 Conditions to Avoid:	Avoid temperatures >160°C for prolonged periods of time as above this temperature thermal decomposition of this product will occur.
10.5 Incompatible Materials:	None known.
10.6 Hazardous Decomposition Products:	Upon thermal decomposition oxides of carbon, sulphur and phosphorous may be formed. Toxic fumes of phosphine may also be evolved.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute Toxicity:

Acute Toxicity - Oral Route:	Using the additivity formula for acute toxicity given in Annex I to Regulation (EC) No. 1272/2008 an LD50, oral, rat > 2000 mg/kg bw has been calculated. Therefore, the product is not classified as acutely toxic via the oral route.
Acute Toxicity - Dermal Route:	THPS is not classified as toxic via the dermal route.
Acute Toxicity – Inhalation	Using the additivity formula for acute toxicity given in Annex I of Regulation (EC) No. 1272/2008 an LC50, inhalation, rat > 20 mg/L has been calculated. Therefore, this product is not classified as acutely toxic by inhalation.



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Skin Corrosion/Irritation:	Skin irritation is not expected when this product is used/handled correctly.
Serious Eye Damage/ Irritation:	Product is classified as "Eye Irrit. 2 - H319" direct eye contact will cause irritation and reddening of the eyes. Immediate first aid is advised.
Respiratory/Skin Sensitisation:	Product may cause an allergic reaction by direct contact.
Germ Cell Mutagenicity:	Product is not expected to be mutagenic.
Carcinogenicity:	Product is not expected to be carcinogenic.
Reproductive Toxicity:	Product is not expected to damage the reproductive system or harm a developing foetus.
Evaluation of CMR Properties:	No test data available.
STOT-Single Exposure:	No test data available.
STOT-Repeated Exposure:	No test data available.
Aspiration hazard:	No test data available.

General information:

See Section 4.2 of this Safety Data Sheet.

Inhalation:	Inhalation of vapours may cause irritation of the upper respiratory tract.
Ingestion:	May cause discomfort to the stomach if swallowed.
Skin Contact:	Contact may cause irritation of the skin. Contact may also cause an allergic skin reaction.
Eye Contact	Direct contact will cause serious irritation/soreness and reddening - rinse immediately with water.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product classified as Aquatic Chronic 3 - H412.

The following toxicity values are for a 25-35% aqueous solution of THPS which is the active ingredient in this mixture.

12.1 Toxicity

LC50, 96 hours, Fish:	>119.0 mg/L
EC50, 48 hours, Daphnia Magna:	>19.4mg/L
EC50, 96 hours, Aquatic Plants:	>0.20 mg/L



12.2 Persistence and Degradability

THPS, the active ingredient in this product is readily biodegradable.

12.3 Bio Accumulative Potential

Will not bio-accumulate.

Partition coefficient - not determined.

12.4 Mobility in Soil

This product is water soluble so is expected to be mobile in soil.

12.5 Results of PBT and vPvB Assessment

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

12.6 Other Adverse Effects

Not determined.

13. DISPOSAL CONSIDERATIONS

General Information

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with Local Waste Disposal Authority.

Disposal Methods

Dispose of waste and residues in accordance with local authority and/or local sewage treatment plant requirements.

14. TRANSPORT INFORMATION

14.1 UN Number

Product not hazardous for transport - no information required.

14.2 UN Proper Shipping Name

Product not hazardous for transport - no information required.

14.3 Transport Hazard Class(es)

Product not hazardous for transport - no information required.



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Transport Labels: Product not hazardous for transport - no information required.

14.4 Packing Group

Product not hazardous for transport - no information required.

14.5 Environmental Hazards

Product not classed as an environmentally hazardous substance or marine pollutant.

14.6 Special Precautions for User

Product not hazardous for transport - no information required.

14.7 Transport in Bulk According to Annex II of Marpol and the IBC Code

Product not hazardous for transport - no information required.

15. 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.



16. OTHER INFORMATION

Hazard Statements in Full:

The following hazard statements are the hazard statements 'in full' for the components of this mixture and do not necessarily represent the final classifications of this product.

H302 - Harmful if swallowed.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H400 - Very toxic to aquatic life.

H411 - Toxic to aquatic life with long-lasting effects.

H331 - Toxic if inhaled.

Further classification and composition comments

No further classification or composition comments required.

(i) Indication of Changes

Safety Data Sheet updated to comply with the new requirements as set out in Regulation (EC) No. 1272/2008 (CLP).

(ii) Abbreviations and acronyms

bw: Bbodyweight

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, Bioaccumulate & Toxic

PNEC: Predicted No Effect Concentration

REACH: Registration, Evaluation, Authorisation & restrictions of Chemicals

SDS: Safety Data Sheet

vPvB: Very Persistent and Very Bioaccumulate

WEL: Workplace Exposure Limit

(ii) Training Advice

Product should only be handled by trained operators.



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(iv) Additional Information

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.

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By:	F Flynn
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