

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

- 1.1 Product Identifier TourPlex Cu
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
Relevant uses: Use as a professional use fertiliser.
- 1.3. Details of the supplier of the safety data sheet
Company: Tour Best LLC, P.O. Box 127414, Dubai, UAE.
Phone: +971 (0) 50 344 1381
Email: golf@tourbest.ae
- 1.4. Emergency telephone number +44 (0) 7725 962 366

SECTION 2: Hazards Identification
2.1. Classification of the substance or mixture

CLASSIFICATION according to Directive EC 1272/2008 Classification, Labelling and Packaging

- Acute Tox. 4: H302: Harmful if swallowed.
Skin Irrit. 2: H315: Causes skin irritation.
Eye Dam. 1: H318: Causes serious eye damage.
STOT Rep 2: H373: May cause damage to organs through prolonged or repeated exposure.
Aquatic Ac. 1: H400: Very toxic to aquatic life
Aquatic Chr. 1: H410: Very toxic to aquatic life with long lasting effects

CLASSIFICATION according to Directive 1999/45/EC and statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging)

- Xn; R22: Harmful if swallowed.
Xi; R36/38: Irritating to eyes and skin.
Xn; R48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
N; R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Primary Hazard: Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Contains: Copper sulphate E.C. 231-847-6



Signal word: Danger

- Hazard Statements: H302: Harmful if swallowed.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.
- Precautionary Statements P260: Do not breathe mist/vapours/spray.
P280: Wear protective gloves/eye protection.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
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 or doctor/physician.
P391: Collect spillage
P501: Dispose of contents/container in accordance with local/national regulations.

2.3. Other hazards

Mixture not classed as PBT or vPvB.

SECTION 3: Composition/Information on Ingredients

Hazardous components:

Identification	Chemical Name/Classification		Concentration
CAS: 7758-99-8 EC: 231-847-6 INDEX: 029-004-00-0 REACH: 01-2119520566-40	Copper sulphate pentahydrate		5.0-10.0%
	Directive 67/548/EC	R22; R36/38; R50/53  	
	Regulation 1272/2008	Acute Tox. 4 - H302; Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410; M-factor: 10  	
CAS: 77-92-9 EC: 201-069-1 REACH: 01-2119457026-42	Citric Acid		<5.0%
	Directive 67/548/EC	R36 	
	Regulation 1272/2008	Eye Irrit. 2, H319 	

The full text and symbols for all hazard information if not displayed in section 2 or 3 are displayed in Section 16

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

By inhalation: Remove from source of exposure to fresh air; seek medical attention.
By skin contact: Drench immediately with water. Remove any contaminated clothing and launder before re-use. Seek medical attention if symptoms persist or develop.
By eye contact: Rinse cautiously for several minutes, Remove contact lenses, if present and easy to do, rinse with clean water for 15 minutes. Seek medical attention IMMEDIATELY.
By consumption: Do not induce vomiting. Wash out mouth with water and give water to drink. Obtain medical attention IMMEDIATELY.

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

Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

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

Information not available

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Use Foam, carbon dioxide, dry powder, sand. The mixture is not classified as flammable as such extinguishing media should be chosen as appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Possible irritant fumes arising from combustion.

5.3. Advice for fire-fighters

Cool down containers/equipment exposed to heat with a water spray. Contain spread of extinguishing fluids (these fluids may be hazardous for the environment). Wear complete protective clothing and self-contained breathing apparatus.

SECTION 6: Accidental Release Measures**6.1. Personal precautions, protective equipment and emergency procedures**

The following precautions are considered to be good practice when using any chemicals irrespective of their classification unless otherwise specified.

Use personal protective equipment: appropriate coveralls and gloves
eye/face protection
appropriate respirator

Avoid contact with skin and eyes

6.2. Environmental precautions

Do not allow to enter storm drains or water courses. If this product enters a water course or a sewer (including via contaminated soil & vegetation) in large quantities contact local water authority and inform the Environment Agency.

6.3. Methods and material for containment and cleaning up

Sweep avoiding generating dust into labelled containers for recovery or contact specialist waste disposal contractor.

6.4. Reference to other sections

No reference necessary.

SECTION 7: Handling and Storage**7.1. Precautions for safe handling**

Avoid contact with skin and eyes. Wash Hands thoroughly after handling

Do not eat, drink or smoke when using this product. remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool dry atmosphere, in original labelled containers. Refer to manufacturer for maximum safe stacking height. Keep away from heat sources, combustible materials.

7.3. Specific end use(s)

No specific information available.

SECTION 8: Exposure Controls/Personal Protection**8.1. Control parameters**

Copper Sulphate:

DNEL:

Oral	Long Term	Systemic Effects	0.041 mg/kg/day
Oral	Short Term	Systemic Effects	0.082 mg/kg/day
Inhalation	Long Term	Local Effects	(*) = 1 mg/m ³
Inhalation	Long Term	Local Effects	(**) = 0.01 mg/m ³
Dermal	Long Term	Local Effects	(***) 136.67 mg/kg/day

Dermal	Long Term	Local Effects	(****)13.67 mg/kg/day
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(*)Dust. (**)Fume. (***)Powder. (****)Liquid.

Citric acid:

PNEC:

Aquatic PNECaqua – freshwater (mg/l): 0.44

PNECaqua – marine water (mg/l): 0.044

PNECfreshwater-sediment (mg/kg d.w.) 3.46 (Equivalent to 0.752 mg/kg wwt)

The PNECmarine-sediment (mg/kg d.w.) 34.6 (Equivalent to 7.52 mg/kg wwt)

Terrestrial (PNECsoil mg/kg d.w.) 33.1

Sewage treatment plant PNEC STP (mg/l) >1000

Atmospheric Compartment Not applicable

8.2. Exposure controls

Goggles – Eye Protection: goggles/face shield to BS EN166

Gloves – BS EN374 – chemical protection

Respirators – BS approved protection device with P3 filter

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance: Off-white solid

Odour: Information not specified

pH: Information not specified

Melting point/freezing: Information not specified

Flammability (solid, gas): Information not specified

Specific gravity: Information not specified

9.2. Other information

No other relevant information available.

SECTION 10: Stability and Reactivity

10.1. Reactivity

Unknown.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Information not available.

10.4. Conditions to avoid

Extremes of temperature.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Possible Irritant fumes.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

The mixture has not been assessed for toxicological effects, the mixture classification is given in section 2 based on individual component contents. Individual component hazards are given in section 3

Toxicological information on hazardous ingredients:

Copper sulphate pentahydrate:

Toxicological information

Copper is an essential element and therefore, its concentration in the body is strictly and efficiently regulated by homeostatic mechanisms.

Inhalation: The "respirable" fraction is assumed to be 100% absorbed. Absorption of the "inhalable" fraction depends on particle size. The Multiple Path Model of Particle Deposition (MPPD) can quantify the particle dependent absorption.

Oral: An oral absorption of 25% has been adopted, based on studies in the rat.

Dermal: A dermal absorption of 0.3% has been adopted for soluble and insoluble copper substances in solution or suspension, based on in- vitro percutaneous tests with human skin. For dry exposure, a dermal absorption value of 0.03% applies.

Acute toxicity: Acute Toxicity (Oral LD50) ~ 480 mg/kg Rat

Test method(s): OECD 401. Harmful if swallowed.

Acute Toxicity (Dermal LD50) > 2000 mg/kg Rat

Not classified. Test method(s): OECD 402.

Based on available data the classification criteria are not met.

Acute Toxicity (Inhalation LC50) Not determined.

Inhalation is not considered to be a likely route of exposure based on the physical properties of the substance. Based on available data the classification criteria are not met.

Skin Corrosion/Irritation::

Dose: 0.5 g; 4 hr Rabbit

Erythema\eschar score average < (1)

Oedema score: No oedema (0).

Test method(s): OECD 404. This OECD study concluded that there should be no classification - this result is less severe than the harmonized classification as a Category II skin irritant set out in Annex VI of Regulation 1272/2008. Not irritating.

Serious eye damage/irritation:

A test carried out in 3 male rabbits resulted in severe ocular irritation that was not reversible within the duration of the test. Test guideline OECD 405. Copper sulphate pentahydrate meets the criteria for causing serious eye damage. This is more severe than the harmonized classification as an eye irritant set out in Annex VI of Regulation EC 1272/2008.

Respiratory or skin sensitisation:

Skin sensitisation: Guinea pig maximization test (GPMT): Test method(s): OECD 406.

Not Sensitising.

Germ cell mutagenicity:

Genotoxicity - In Vitro

Gene Mutation: Test method(s): OECD 471. Negative.

Genotoxicity - In Vivo

DNA damage and/or repair:

Test method(s): OECD 486. A mouse micronucleus test (EC method B.12) also gave negative results. Negative.

Carcinogenicity:

Carcinogenicity - Based on a weight of evidence approach, it was concluded that copper compounds do not have carcinogenic potential.

Test method(s): Journal of the American Pharmaceutical Association, 43(12): 722-737, Br. J. Cancer Sep; 23(3): 591-596, Fd Cosmet. Toxicol. 11: 827-840.

Not Classified

Reproductive Toxicity:

Reproductive Toxicity - Fertility

Two-generation study: LOAEL 23.5 mg/kg Oral Rat F2a

The units are expressed in 'mg/µg' of: Copper. Not classified. Test method(s): OECD 416.

Reproductive Toxicity - Development

Teratogenicity: LOAEL 9 mg/kg Oral Rabbit

Not classified. Test method(s): OECD 414.

Specific target organ toxicity - single exposure:

STOT - Single exposure

Scientifically unjustified, already classified for Acute Oral Toxicity.



Specific target organ toxicity - repeated exposure:	STOT - Repeated exposure – A 90-day oral repeat dose study conducted with copper sulphate pentahydrate in rats and mice (test method equivalent to EU B.26) gave the following results: For stomach lesions: NOAEL in the rat: 16.7 mg Cu/kg bw/day NOAEL in male mice 97 mg Cu/kg bw/day NOAEL in female mice: 126 mg Cu/kg bw/day Liver and kidney damage: NOAEL in the rat: 16.7 mg Cu/kg bw/day This study was used to calculate of an oral and systemic DNEL of 0.041 mg Cu/kg bw/day (including a Safety factor of 100 and an oral absorption of 25%). Not classified.	
Aspiration hazard:	Viscosity, no data available.	
Inhalation:	Prolonged inhalation of high concentrations may damage respiratory system.	
Ingestion:	May irritate and cause stomach pain, vomiting and diarrhoea.	
Skin contact:	Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Prolonged or repeated exposure may cause severe irritation.	
Eye contact:	Causes serious eye damage.	
Health Warnings:	The product causes irritation of mucous membranes and may cause abdominal discomfort if swallowed.	
	Target Organs:	Skin, eyes, respiratory system, lungs.
Citric acid		
Acute toxicity:	Ingestion LD50 (mouse):	5400 mg/kg bw
	Inhalation:	No data
	Skin Contact. LD50 (dermal):	>2000 mg/kg bw
Skin corrosion/irritation:	mild skin irritant	
Eye Contact:	Irritating	
Respiratory or skin sensitization:	Not a sensitizer	
Mutagenicity:	Not a mutagen	
Carcinogenicity:	Not a carcinogen	
Reproductive toxicity:	Not a reproductive toxin	

11.2. Other Information

None.

SECTION 12: Ecological Information

12.1. Toxicity

Mixture Classified as very toxic to aquatic life with long lasting effects to the environment in accordance with the Dangerous Preparations Directive 1999/45/EC.

Toxicity of ingredients where available:

Copper sulphate:

Acute toxicity of copper ions was assessed using 451 L(E)C50 values from studies on soluble copper compounds. The lowest species-specific geometric mean reference value of 25.0 µg Cu/L was an L(E)C50 obtained for Daphnia magna at pH 5.5 - 6.5.

CHRONIC FRESHWATER TOXICITY- test results and PNEC derivation:

Chronic toxicity of copper ions from soluble copper compounds was assessed using 139 NOEC/EC10 values from 27 species representing different trophic levels (fish, invertebrates and algae). Species-specific NOECs were normalised using Biotic Ligand Models and used to derive Species Sensitivity Distributions (SSD) and a lowest HC5 (the median fifth percentile of the SSD) of 7.8 µg dissolved Cu/L. This value is considered to be protective of 90% of EU surface waters and represents a reasonable worst case. Applying an assessment factor of 1, a default chronic freshwater PNEC of 7.8 µg dissolved Cu/L is assigned to assess local risks.

CHRONIC MARINE WATERS TOXICITY- test results and PNEC derivation:

Chronic toxicity of copper ions from soluble copper compounds was assessed using 51 NOEC/EC10 values from 24 species representing different trophic levels (fish, invertebrates and algae). Species-specific NOECs were calculated after normalizing to dissolved organic carbon (DOC) and were used to derive SSDs and HC5 values. Normalisation at a typical DOC for coastal waters of 2 mg/l resulted in an HC5 of 5.2 µg dissolved Cu/L. Applying an assessment factor of 1, a default chronic marine PNEC of 5.2 µg dissolved Cu/L is assigned to assess local risks.

CHRONIC FRESHWATER SEDIMENT TOXICITY- test results and PNEC derivation:

Toxicity of copper ions from soluble copper compounds was assessed using 62 NOEC values from 6 benthic species. The NOECs were related to DOC and Acid Volatile Sulphide (AVS) and were used to derive SSDs and HC5 values. An HC5 of 1741 mg Cu/kg OC, corresponding to 87 mg Cu/kg dry weight, was calculated for a low AVS sediment with a default OC of 5%. Applying an assessment factor of 1, a default chronic freshwater sediment PNEC of 87 mg Cu/kg dry weight is assigned to assess local risks.

CHRONIC TERRESTRIAL TOXICITY- test results and PNEC derivation:

Toxicity of copper ions from soluble copper compounds was assessed using 252 NOEC/EC10 values from 28 different species representing different trophic levels (decomposers, primary producers, primary consumers). NOEC values were adjusted to account for differences between lab-spiked soils and field-contaminated soils by the addition of a leaching ageing factor of 2. The adjusted values were then normalized to a range of EU soils using regression bioavailability models and used to derive SSDs and a lowest HC5 value of 65.5 mg Cu/kg dry weight. Applying an assessment factor of 1, a default chronic soil PNEC of 65.5 mg Cu/kg dry weight is assigned.

TOXICITY TO SEWAGE TREATMENT PLANT (STP) MICRO-ORGANISMS

The toxicity of copper ions from soluble copper compounds was assessed using NOEC and EC50 values from high quality studies with STP bacteria and protozoa. The statistically-derived NOEC was 0.23 mg Cu/L in the STP. Applying an assessment factor of 1, a PNEC of 0.23 mg Cu/L is assigned for Sewage Treatment Plant.

12.2. Persistence and degradability

Readily biodegradable

12.3. Bioaccumulative potential

Information not available

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

Not classified

12.6. Other adverse effects

Information not available

SECTION 13: Disposal Considerations**13.1. Waste treatment methods**

Use only licensed waste disposal companies. Do not re-use empty containers for any purpose, dispose of packaging in accordance with local regulations.

SECTION 14: Transport Information

14.1 UN number:	UN3077
14.2 UN proper shipping name:	Environmentally hazardous preparation, solid N.O.S. (contains: Copper sulphate E.C. 231-847-6)
14.3 Transport hazard:	9
14.4 Packing group:	III
14.5 Environmental hazards:	Product is classified as toxic to aquatic life with long lasting effects.
14.6 Special precautions for user:	Not specified

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Applicable for Maritime bulk transport only. Check with carrier.

SECTION 15: Regulatory Information

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

This substance is classified and labelled in accordance with regulation 1999/45/EC, 1272/2008, the statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging) regulations and the EC Fertiliser Regulations 2003, 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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation (EC).

15.2. Chemical Safety Assessment

CSA not undertaken for this substance.

16. OTHER INFORMATION

The information contained herein relates only to the designated formulation and may not be valid if product is used in combination with other substances. The information is to the best of our knowledge, belief and understanding, true, accurate and reliable at the date of issue. However, the information may neither be exhaustive or complete, and no warranty, guarantee or liability concerning the accuracy or completeness of the information is expressed or implied. It is the user's risk and sole responsibility to verify and satisfy their own criteria and duty of care concerning the validity of the information in relation to their application of the product.

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