

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING 1. COPPER MIXTURE **1.1 Product Identifier:** UFI 1.2 Relevant uses of the substance or mixture and uses advised against: Fertiliser 1.3 Manufacturer/Distributor: Vitax Limited, Owen Street, Coalville, Leicestershire LE67 3DE Tel: ++44 (0)1530 510060 Email: info@vitax.co.uk **1.4 Emergency Contact:** Tel: ++44 (0)1530 (Office Hours) **IRL ONLY:** In the event of emergency, call the National Poisons Information Centre, Beaumont Hospital at 01 809 2166 or 01 837 9964. HAZARDS IDENTIFICATION 2. 2.1 Classification: Classification according to Regulation (EC) No 1272/2008 (EU-GHS/CLP) Eye Damage 1 H318 Causes serious eye damage Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects 2.2 Label Elements: (contains: Manganese sulphate E.C. 232-089-9, Copper oxychloride E.C. 215-572-9, Zinc oxide E.C. 215-222-5) Signal word: Danger Hazard statements: H318 Causes serious eye damage H411 Toxic to aquatic life with long lasting effects P101 Read label before use **Precautionary Statements** P102 Keep out of reach of children P103 If medical advice is needed, have product label or container at hand P280 Wear eye/face protection. P305/351/338 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 regulation 2.3 Other Hazards: Mixture not classed as PBT or vPvB

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical Name	CAS-No./ EINECS No.	Annex Index	Symbol(s) and Phrases	Concentration
Manganese Sulphate	10034-96-5/ 232-089-9	Index no.: 025-003-00-4 REACh registration no.: 01-2119456624-35	GHS05 Eye Damage 1, H318 Causes serious eye damage GHS08 STOT Rep. 2, H373 May cause damage to organs through prolonged or repeated exposure GHS09 Aqu. Tox. chron. 2, Toxic to aquatic life with long lasting effects	9.0
Copper oxychloride	215-572-9 1332-40-7 / 1332-65-6	-	GHS07 Acute Tox. 4 H302: Harmful if swallowed Acute Tox. Inhalation Cat 4 H332 Harmful by inhalation GHS09 Environmental Aquatic Acute 1 – H400 Very toxic to aquatic life Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects GHS05 Eye Dam 1 H318: Causes serious eye damage	4.5
Zinc oxide	1314-13-2/ 215-222-5	Index no.: 030-013-00-7 REACh registration no.: 01-2119463881-32	GHS09 Aquatic Acute 1 - H400 Very toxic to aquatic life Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects	2.7%
Kaolin	92704-41-1 296-473-8	-	-	>50%

Kaolin contains as impurities less than 1% respirable quartz CAS 14808-60-7 EC No. 238-878-4 classified as STOT RE1

4. FIRST AID MEASURES 4.1 Description of First Aid Measures



	Eye contact –	Rinse eyes cautiously with water for several minutes. Remove contact lenses, if present
		and easy to do. Continue rinsing. Immediately call a poison centre or
		doctor/physician.
	Skin contact –	Drench immediately with water. Remove any contaminated clothing and launder
		before re-use. Seek medical attention if symptoms persist or develop.
	Ingestion –	Do not induce vomiting. Wash out mouth with water and give water to drink. Seek medical attention if symptoms persist or develop.
	Inhalation –	If symptoms arise remove from source of exposure to fresh air; seek medical attention
		if symptoms persist or develop.
	4.2 Most important symptoms and ef	ffects, both acute and delayed
		Causes serious eye damage
	4.3 Indication of immediate medical	attention and special treatment needed:
		No information available
5.	FIRE FIGHTING MEASURES	
	5.1 Extinguishing Media:	Use foam, carbon dioxide, dry powder, sand. The mixture is not classified as
	8 8	flammable as such extinguishing media should also be chosen as appropriate for
		surrounding materials.
	5.2 Special hazards arising from sub	stance or mixture:
		Possible irritant fumes arising from combustion.
	5.3 Advice for firefighters:	Cool down containers/equipment exposed to heat with a water spray. Contain
	C C	spread of extinguishing fluids (these fluids may be hazardous for the environment). Wear complete protective clothing and self-contained breathing apparatus.
6.	ACCIDENTAL RELEASE MEASU	RES
	6.1 Personal Precautions:	Ensure adequate ventilation. Wear a suitable dust mask if dust is generated above exposure limits. Wear gloves and eye protection. Wash hands and exposed skin after handling.
	6.2 Environmental precautions:	Do not allow to enter drains, watercourses or sewers. 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 contai	nment and cleaning up:
		Sweep up spills carefully to minimise dust. Transfer to heavy duty plastic bags or drums and keep safe for disposal.
7.	HANDLING & STORAGE	
	7.1 Precautions for Safe Handling:	Ensure good ventilation at workplace. Ensure good hygiene practices are observed.
	-	Do not eat, drink or smoke when handling this product. Do not breathe dust. Avoid contact with skin and eyes.
	7.2 Conditions for Safe Storage:	Store in original containers, tightly closed in a secure, well ventilated, cool but frost-
	6.1	free, dry area. Refer to manufacturer for maximum safe stacking height. Keep away from heat sources, combustible materials and strong oxidising agents.
	7.3 Specific end use:	Fertiliser.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION 8.1 Control parameters:

Name	STD	LTEL TWA 8hr		STEL 15 mi	in	Notes
Manganese and its salts (as Mn)	WEL		0.5 mg/m3			
Inorganic dust	WEL		4 mg/m3			
			resp.dust			
Kaolin	WEL		2 mg/m3			
quartz	WEL		0.1 mg/m3			

WEL = Workplace exposure limits

 DNELs

 Figures stated are manganese sulphate.H2O

 Industry Dermal Long Term
 4.14 μg/kg/day

 Industry Inhalation. Long Term
 0.2 mg/m3

 Consumer Dermal Long Term
 2.1 μg/kg/day

 Consumer Inhalation. Long Term
 0.043 mg/m3

 DNELs for the oral route, all "acute effects" and for "long-term local-effects" were not calculated and are not required for the "identified uses" covered in this SDS and the Chemical Safety Report (CSR).

PNEC



Freshwater	0.0128 mg/l				
Marinewater	0.4 µg/l				
Spills(freshwater)	30 µg/l				
Sediment (Freshwater)	11.4 µg/kg				
Sediment (Marinewater)	1.4 µg/kg				
Soil	25.1 mg/kg				
STP	56 mg/l				
Soil & sediment PNEC values are mg/kg wet w	eight.				
8.2 Exposure Controls:					
Personal protective equipm	Personal protective equipment:				
General protective and hygienic measures: The usual precautionary measures should be adhered to in the					
-	handling of the chemicals. Wear protective gloves and eye protection. Take off contaminated clothing and wash before reuse. Do not eat, drink or smoke when handling this product.				
Breathing equipment:	Dust Mask FFP2 Not required if all workplace limits are observed and good ventilation is ensured.				
Protection of hands:	Requirements according to EN 374 in natural rubber or PVC				
Eye protection:	Tightly sealed safety glasses.				
Body protection:	Protective work clothing to EN465/466/467.				

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

T THU	mation on basic physical a	nu chemieur properties.
	Appearance	pale green powder
	Odour	none
	pH	not available
	Boiling point	not available
	Melting point	not available
	Flash point	not available
	Flammability	not flammable
	Autoflammability	none
	Explosivity	none
	Oxidising properties	none
	Vapour Pressure	not available
	Relative density	not available
	Solubility	disperses in water
Othe	r information:	none

9.	2 Other	information:	

10.	STABILITY & REACTIVITY	
	10.1 Reactivity:	no data
	10.2 Stability:	Stable under normal conditions.
	10.3 Possibility of hazardous reactions	Information not available
	10.4 Conditions to Avoid:	Store away from heat
	10.5 Incompatible materials:	Information not available.
	10.6 Hazardous Decomposition Produ	cts:
	-	Possible irritant fumes.

11. TOXICOLOGICAL INFORMATION

Respiratory or skin sensitisation: Skin sensitisation Patch Test: Mouse

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 individual components where available: Manganese sulphate: Acute Toxicity (Oral LD50) 2150 mg/kg Rat Acute Toxicity (Dermal LD50) Not determined. Dermal absorption is unlikely due to the physical-chemical properties of the substance. Acute Toxicity (Inhalation LC50) > 4.45 mg/l (dust/mist) Rat 4 hours Test method(s): OECD 403. Skin Corrosion/Irritation: Erythema\eschar score No erythema (0). Oedema score No oedema (0). Not irritating. Test method(s): OECD 404. Serious eye damage/irritation: Irritating. Test method(s): OECD 405. Irritation score: 36 / 110

Not Sensitising.



Germ cell mutagenicity:	
Genotoxicity - In Vitro	
Gene Mutation:	Negative.
(using Manganese chloride) Test method(s)	: OECD 476. + 471.
Genotoxicity - In Vivo	
Chromosome aberration:	Negative.
(using Manganese chloride) Test method(s)	: OECD 474.
Carcinogenicity:	Based on available data the classification criteria are not met.
NOAEL (\circlearrowleft)	615 mg/kg Oral Rat
NOAEL (\bigcirc)	715 mg/kg Oral Rat
Reproductive Toxicity:	
Reproductive Toxicity – Fertility	Suspected reproductive toxicant based on limited evidence. Testing waived because a more severe health effect was found (STOT-RE class2). Controlling the risk of 'STOT-RE class 2' will control the risks for this endpoint.
Reproductive Toxicity – Development	Suspected reproductive toxicant based on limited evidence. Testing waived because a more severe health effect was found (STOT-RE class2). Controlling the risk of 'STOT-RE class2' will control the risks for this endpoint
Specific target organ toxicity - single expos	ure:
STOT - Single exposure	Scientifically unjustified
Specific target organ toxicity - repeated exp	osure:
STOT - Repeated exposure	Not determined.
Target Organs	Brain
MnSO4 is already classified under Directiv	e 67/548/EEC as R48/20/22 and under GHS as STOT RE2. Data exists showing some
neurochemical changes at low levels after in	halation exposure for 90-days, together with locomotor changes, around 3 mg/m3
concentration, suggesting that significant to	xicity could occur at the 20-200 mg/m3 concentration level, which supports the current
classification of STOT RE 2 for the inhalati	on route.
Aspiration hazard:	Not applicable.
Inhalation	Prolonged inhalation of high concentrations may damage respiratory system.
Ingestion	May cause discomfort if swallowed.
Skin contact	Powder may irritate skin.
Eye contact	Particles in the eyes may cause irritation and smarting.
Route of entry	Inhalation.
Target Organs	Brain Eyes Respiratory system, lungs Skin
Copper oxychloride:	
TOXICOLOGICAL INFORMATION	
Ingestion DL50	>500 mg/kg b.w. Rat
Inhalation CL50	1.95 mg/l Rat
Skin DL50	>2000 mg/kg b.w.·Rat
Irritation: Skin:	Non oedema, non erythema(Rabbit)
Eye:	Non irritant (Rabbit)
Corrosivity:	No information available.
Sensitisation:	Non sensitizer (Guinea pig)
Repeated dose toxicity:	No information available.
Carcinogenicity:	Not applicable. Copper is widely present in all food, feedingstuffs and water.
Mutagenicity:	Not applicable. Copper is widely present in all food, feedingstuffs and water.
Toxicity for reproduction:	Not applicable. Copper is widely present in all food, feedingstuffs and water
Zinc oxide:	
Toxic Dose I - LD 50	/950 mg/kg (oral-mouse)
Toxic Dose 2 - LD 50	> 15000 mg/kg (oral rat)
10x1c Conc LC 50	> 5. / mg/1/4n (inn-rat)
	Dust in night concentrations may irritate the respiratory system.
Ingestion:	May cause discomfort if swallowed.
Skin Contact:	Powder may initiate skin. While dermatitis, allergic skin fash.
Eye Colliaci. Medical Considerations:	rations in the eyes may cause initiation and smarting.
medical Considerations:	small amounts up to 25 mg.
ECOLOCICAL INFORMATION	

12. ECOLOGICAL INFORMATION 12.1 Toxicity:

Mixture Classified as Toxic to a quatic life with long lasting effects in accordance with the Dangerous Preparations Directive $1999/45/\rm EC$

Toxicological information on individual components where available:

Manganese sulphate:

Acute Toxicity – Fish LC50 96 hours	14.5 mg/l Onchorhynchus mykiss (Rainbow trout)
Acute Toxicity - Aquatic Invertebrates (using	Manganese chloride)
EC50 48 hours	9.8 mg/l Daphnia magna
Acute Toxicity - Aquatic Plants EC50 72 hrs	61 mg/l Desmodesmus subspicatus (algae).



	Chronic Toxicity - Aquatic Invertebrates	Not applicable. A variety of tests have indicated that a classification more severe than Aquatic Chronic 2 is not required
	Zinc oxide:	1 1
	LC 50, 96 Hrs, Fish mg/l	1.1
	EC 50, 48 Hrs, Daphnia, mg/l	>1000
	IC 50, 72 Hrs, Algae, mg/l	0.1 - 1.0
	Copper Oxychloride	
	Acute toxicity (short-term) Fishes:	>0.01 mg Cu/l EC50 (O.mykiss)/ 96 h
	Chronic (long-term) toxicity Fish:	No information available.
	Aquatic invertebrates: 21d NOEC /	
	aquatic invertebrates (D.magna)	= 0.046 mg Cu/l (total)
	12.2 Persistence and degradability:	no data
	12.3 Bioaccumulative potential:	no data
	12.4 Mobility in soil:	no data.
	12.5 Results of PBT and vPvB:	not classified.
	12.6 Other adverse data:	no data
13. D	ISPOSAL CONSIDERATIONS	Disposal route should not permit contamination of groundwater.
1012	13.1 Waste treatment methods:	Dispose of waste through a reputable waste disposal contractor in accordance with the
		Environmental Protection Act 1990.
14. T	RANSPORT INFORMATION	Limited Quantity exemptions apply to packaged goods
	14.1 UN-Number	
	ADR, IMDG, IATA :	UN3077
	14.2 UN proper shipping name	
	ADR, IMDG, IATA:	Environmentally hazardous preparation, solid N.O.S. (contains: Manganese sulphate E.C. 232-089-9, Copper oxychloride E.C. 215-572-9, Zinc oxide E.C. 215-222-5).
	14.3 Transport hazard class(es)	
	ADR, IMDG, IATA	
	Class:	9.
	14.4 Packaging Group	
	ADR, IMDG, IATA:	III.
	14.5 Environmental hazards:	Yes.
	14.6 Special precautions for user	None
	14.7 Transport in bulk according to A	Annex II of MARPOL73/78 and the IBC Code Check with carrier
		Check while carrier.
15.	REGULATORY INFORMATION	т т, , п · т, , · · · · , , · · · ,
	15.1 Safety, health and environmenta	Il regulations/legislation specific to this substance:
		This substance is classified and labelled in accordance with regulation 1999/45/EC,
		12/2/2008, the statutory instrument No. /16 2009 Chemicals (Hazard Information and
		Packaging) regulations and the EC Fertiliser Regulations 2005, Regulation (EC) No 1007/2006 of the European Darliament and of the Council of 18 December 2006
		concerning the Pagistration Evaluation Authorization and Pastriction of Chamicals
		(DEACH) astablishing a European Chamicals Aganay amonding Directive
		(REACH), establishing a European Chemicals Agency, amending Directive
		Pagulation (EC) No 1482/04 as well as Council Directive 76/760/EEC and
		Commission Directives 01/155/EEC 02/67/EEC 02/105/EC and 2000/21/EC
		commission Directives 91/155/EEC, 95/07/EEC, 95/105/EC and 2000/21/EC,
	15.2 Chemical Safety Assessment	not undertaken for this material
16.	OTHER INFORMATION	
100	Reason for revision:	Replaces version dated September 2014. Irish emergency contact details added to
		Section 1. Sections 3. 8, 11 and 12 amended with general minor reformatting
	Liability	The product label provides information on the use of the product do not use
		otherwise, unless you have assessed any notential hazard involved and the safety
		measures required. Prenared by VITAX LTD for Health and Safety nurposes from
		the best knowledge available at the time of printing.
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