

According to EC Regulations No. 453/2010 (REACH), 1272/2008 (CLP) & 453/2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name MOSS KILLER & LAWN TONIC
Product code XMKLT2XL, XMKLT4TL, XMKLT6IL, XMKLTYDL (MAPP 04661PCS 92340)
REACH registration No. Not applicable

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified use(s) Use as a home and garden lawn treatment

Uses advised against Not suitable for human consumption

1.3. Details of the supplier of the safety data sheet

Supplier name: Valagro UK Ltd
Supplier address: Valagro UK Ltd
P.O. Box 6027
Corby
NN17 1ZH

Supplier telephone: +44 (0) 8700 115117
Email: sales.uk@valagro.co.uk

1.4. Emergency telephone number

Emergency phone No. +44 07779 781813 (GMT English spoken, Mon-Fri – 08:00 – 17:00)

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

2.1.1. Regulation (EC) No.1272/2008 (CLP) Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Serious eye irritation (Category 2)

2.2.2. Directives 67/548/EEC, 1999/45/EC Harmful if swallowed (Xn)
Irritating to skin (Xi)
Irritating to eyes (Xi)

2.2. Label elements**Labelling according Regulation (EC) No 1272/2008 [CLP]**

CLP Hazard Pictograms:

Signal Word(s): Warning

Hazard Statements:

H302 Harmful if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation

Precautionary Statements:

P270 Do not eat, drink or smoke when using this product
P280 Wear eye protection
P301 + P312 IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P332 + P313 If skin irritation occurs: Get medical advice/attention
P501 Dispose of contents in accordance with local regulations, dispose of container to appropriate domestic recycling stream

According to European Directive 67/548/EEC as amended.



Hazard symbol(s):

Risk phrases:

Xn; R22 Harmful if swallowed
Xi; R36/38 Irritating to skin and eyes

Safety phrases:

S13 Keep away from food, drink and animal feedingstuffs
S24/25 Avoid contact with skin and eyes
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical attention
S28 After contact with skin, wash immediately with plenty of water
S39 Wear eye protection
S46 If swallowed, seek medical advice immediately and show this document

2.3. Other hazards This product has not been tested for PBT or vPvB

SECTION 3: Composition/information on ingredients

3.2. Mixtures

EC Classification No 1272/2008 / EEC Classification No 67/548/EEC

Hazardous ingredient(s)	%w/w	CAS no	EC no	REACH Registration no	H statements / Risk Phrases
Iron sulphate heptahydrate	25 – 35	7782-63-0	231-753-5	01-2119513203-57-####	H302, H315, H319 R22, R36/38

SECTION 4: First aid measures**4.1. Description of first aid measures****4.1.1. First aid instructions.**

If inhaled:	Move person into fresh air, rest and seek medical advice
If on skin (or hair):	Wash affected skin with plenty of water. Wash clothes before reuse
If in eyes:	Wash affected eyes for at least 15 minutes under running water with eyelids held open. Remove contact lenses if possible. Seek medical advice
If swallowed:	Never give anything by mouth to an unconscious person. Rinse mouth and throat. Do not induce vomiting. Drink 1-2 glasses of water. Consult a physician
Other first aid advice:	If vomiting occurs spontaneously, keep airways clear. Give more water when vomiting stops

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

If inhaled:	Inhalation of mist or vapours may cause irritation of mucous membranes and upper respiratory tract. Symptoms may include irritation, coughing and tightness of breath
If on skin (or hair):	Where not washed exposure may result in redness and irritation. Irritation may occur to skin especially when already sore or dry according to contact time.
If in eyes:	Exposure to eyes will result in immediate pain and tearing. Burns to the eye may occur if not washed promptly
If swallowed:	On ingestion of a moderate quantity (50 ml or ~2 fluid oz) symptoms usually occur within twenty minutes and may include nausea, vomiting, diarrhoea and abdominal pain. Symptoms of iron toxicity may occur hours after ingestion and can include rapid heartbeat and shock

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

Medical treatment:	For symptomatic patients investigations for acidosis and hyperglycemia are indicated Desferrioxamine is considered as a chelation therapy in appropriate situations
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SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable extinguishing media:	All extinguishing agents permitted
Unsuitable extinguishing media:	None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:	Oxides of iron, carbon, nitrogen and sulphur
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Other special hazards during fire: None known

5.3. Advice for firefighters

Protective actions during firefighting: Wear self-containing breathing apparatus

Special protective equipment for firefighters: No special instructions

Other advice: Not applicable

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Non-emergency personnel PPE See section 8.2

Emergency responders PPE See section 8.2

Controlling risks from accidental release: Avoid contact with strong oxidising agents

Emergency procedures: Evacuate personnel to safe areas.

6.2. Environmental precautions

Keep accidental releases away from: Drains, water courses, soil and open ground. Discharge to ground, water courses or drains can cause eutrophication

6.3. Methods and material for containment and cleaning up

Containing a spill: Mop up and contain with absorbent materials

Cleaning up a spill Mop spills, recycle where possible

Other information on spill handling: Dilute with water, neutralise with lime or limestone powder. Capture with absorbent material. Recycle where possible

6.4. Reference to other sections

References to other sections: See section 8.2 for personal protective equipment. See section 13.1 for disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe handling recommendations: Wash hands and exposed skin before meals and after use. Where gloves when handling the product over long periods of time. Do not spray onto surfaces other than grass to avoid staining

Handling incompatibles: Do not use strong oxidising agents or alkalis

Reducing environmental risk: Do not discharge into drains or water courses

Occupational hygiene advice Wash hands after using this product and before eating, drinking or smoking. Remove contaminated clothing and protective equipment before entering eating areas

7.2. Conditions for safe storage, including any incompatibilities**Safe storage: managing risks during storage:**

Explosive atmospheres formed during storage: Not applicable

Corrosive conditions during storage: Not applicable

Flammability hazards during storage: Not applicable

Incompatible substances or mixtures: Incompatible with oxidising agents and alkalis

Evaporative conditions: Not applicable

Potential ignition sources, including electrical equipment: Not applicable

Safe storage: controlling effects of ambient conditions:

Weather conditions: Do not store outside uncontained

Ambient pressure: Not applicable

Temperature: Do not allow product to freeze or exceed 30°C

Sunlight: Keep out of direct sunlight

Humidity: Not applicable

Vibration: Not applicable

Safe storage: maintaining the integrity of the product:

Stabilisers: Stabilisers are not used in this product

Antioxidants: Antioxidants are not used in this product

Safe storage: other advice:

Ventilation requirements for storage: No specific ventilation requirements

Specific designs for storage rooms or vessels: No specific design criteria on storage areas apart from normal regulatory requirements for substances of this type

Quantity limits under storage conditions: Not applicable

Suitable packaging for the substance: Keep in original container, may be corrosive to aluminium, copper and iron

7.3. Specific end use(s)

Uses: Use as a home and garden lawn treatment

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****8.1.1 Occupational exposure limits:**

Current workplace exposure limits assigned to individual components according to HSE document EH40/2005

Substance	CAS number	Workplace Exposure Limit				Comments
		Long-term exposure limit (8-hr TWA reference period)		Short-term exposure limit (15 minute reference period)		
		ppm	mg.m ⁻³	ppm	mg.m ⁻³	
Iron Salts	-	-	1.0	-	2.0	The Carc, Sen and Sk notations are not exhaustive. Notations have been applied to the substances identified in IOELV Directives

8.1.2 Biological Limit Values: Not applicable

8.1.3 Current recommended monitoring procedures: Not applicable

8.1.4 Air contaminants formed when using the product as intended: Not applicable

8.1.5. PNECs and DNELs Not applicable

8.2. Exposure controls

8.2.1. Appropriate engineering controls: Handle in accordance with good industrial hygiene

8.2.2. Personal Protection Equipment

Eye protection: Use safety glasses tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Face protection: Not required

Hand protection: It is recommended that where this product is to be handled for an extended period; nitrile, latex or rubber gloves, which satisfy the specifications of EU Directive 89/686/EEC and the standard EN420 derived from it are worn

Other skin protection Do not wear open footwear

Respiratory protection Not required

Thermal hazards Not required

8.2.3. Environmental exposure controls Do not release substance to drains or surface water

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance: Clear liquid

Physical state: Liquid

Colour: Wine red

Odour: Slightly sweet and metallic

Odour threshold:	Data not available
pH:	1.5 – 2.5
Melting point:	Data not available
Freezing point:	<0°C
Initial boiling point:	>100°C
Boiling range:	Data not available
Flash point:	Data not available
Flash point method:	Data not available
Evaporation rate:	Data not available
Flammability (if solid or gas):	Data not available
Upper and lower flammability or explosive limits:	Data not available
Vapour pressure:	Data not available
Vapour density:	Data not available
Relative density:	1.19 – 1.21 g/cm ³ (at 20°C)
Solubility(ies)	Completely soluble in water
Partition coefficient: n-octanol/water	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available
Explosive properties	Data not available
Oxidising properties	Data not available
9.2. Other information	Data not available

SECTION 10: Stability and reactivity

10.1. Reactivity	Can react with strong oxidising agents and alkaline materials
10.2. Chemical stability	Product is stable under anticipated storage and handling conditions
10.3. Possibility of hazardous reactions	Substance not known to react and/or polymerise
10.4. Conditions to avoid	Excessive heat (to water boiling point), mixing with alkalis
10.5. Incompatible materials	Oxidising and alkaline materials
10.6. Hazardous decomposition products	No known hazardous decomposition products known

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Data for iron(II) sulphate heptahydrate;

Acute toxicity	Oral - LD50 300 – 2,000 mg/kg body weight
Skin corrosion/irritation	Dermal - LD50 >2,000 mg/kg body weight
Serious eye damage/irritation	Based on formulation components, the mixture is classified as an eye irritant
Respiratory or skin sensitisation	Iron(II) sulphate heptahydrate is not known to be sensitising
Germ cell mutagenicity	Data not available
Carcinogenicity	Data not available
Reproductive toxicity	Data not available
STOT-repeated exposure;	Data not available
11.2. Other information	No other information

SECTION 12: Ecological information**12.1. Toxicity**

No specific data available. The mixture is not classified as an environmental hazard.

12.2. Persistence and degradability	Data not available
12.3. Bioaccumulative potential	Data not available
12.4. Mobility in soil	Data not available
12.5. Results of PBT and vPvB assessment	Data not available
12.6. Other adverse effects	
Environmental fate	Data not available
Photochemical ozone creation potential	Data not available
Ozone depletion potential	Data not available
Endocrine disrupting potential	Data not available
Global warming potential	Data not available

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

This material, if discarded as produced, is not classified as a hazardous waste

Waste treatment containers to be used for product include IBCs or drums
Recycle material where possible. If heavily soiled or disposal judged as necessary dispose to landfill in accordance with the Directive on waste 2008/98/EC

No specific waste treatment containers to be used for contaminated packaging, packaging should be recycled where possible. Waste treatment method for contaminated packaging should include a rinse with water. Dilute washings should be recycled where possible

SECTION 14: Transport information

14.1. UN number	Not applicable	
14.2. UN proper shipping name	ADR/RID	Not dangerous goods
	IMDG	Not dangerous goods
	IATA	Not dangerous goods
14.3. Transport hazard class(es)	Not applicable	
14.4. Packing group	Not applicable	
14.5. Environmental hazards	Not applicable	
14.6. Special precautions for user	Not applicable	
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable	

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture	
Ozone depleting substance (EC No 2037/2000):	Not applicable
Persistent organic pollutants (EC No 850/2004)	Not applicable
Export and import of dangerous chemicals (EC No 689/2008)	Not applicable
COMAH/ Seveso II categories or named substance	Not applicable
REACH Authorisations and/or Restrictions	Not applicable
Any other relevant Safety, health and environmental regulations:	Not applicable
15.2. Chemical safety assessment	A chemical safety assessment has not been carried out for this product

SECTION 16: Other information

a) Changes made to SDS:

Every section has undergone amendment since revision 5

b) Key (or legend)

IOELV	Indicative Occupational Exposure Limit Values
LD50	Lethal Dosage affecting 50% of sample population
TWA	Time Weighted Average

c) Literature references

Data gathered for raw materials from European Chemicals Agency:

<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>

Data gathered for ferrous sulphate toxicity from The Royal Children's Hospital Melbourne

http://www.rch.org.au/clinicalguide/guideline_index/Iron_Poisoning/

Last accessed (18/04/2017)

Some physical properties reported from direct laboratory testing performed at Grotech Production Ltd

Some data has been derived from constituent safety datasheets

d) Details of relevant hazard information

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
P264	Wash hands thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P280	Wear eye protection
P301 + P312	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell
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
P321	Specific treatment (see on this label)
P330	Rinse mouth
P332 + P313	If skin irritation occurs: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
P501	Dispose of contents in accordance with local regulations, dispose of container to appropriate domestic recycling stream
R22	Harmful if swallowed
R36/38	Irritating to skin and eyes
S13	Keep away from food, drink and animal feedingstuffs
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical attention
S28	After contact with skin, wash immediately with plenty of water
S39	Wear eye protection
S46	If swallowed, seek medical advice immediately and show this document

e) Appropriate training for workers

Training for spillage handling and chemical handling is recommended

f) Classification method:

CLP classification, CHIP classification