

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Trade name: Knight
MAPP: 18218

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

Use: Herbicide

1.3. Details of the supplier of the safety data sheet:

Supplier: HARVEST AGROCHEMICALS LTD,
Carpenter Court,
1 Maple Road, Bramhall,
Stockport, Cheshire, SK7 2DH,
UNITED KINGDOM.

Telephone: Tel: 0044845 4599413

Email: registrations@harvestagrochemicals.co.uk

1.4. Emergency Telephone no: 01865 407333 [Carechem]

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008

Physical and chemical hazards: No classification required

Health hazards: Asp. Tox. 1. May be fatal if swallowed and enters airways. H304
STOT SE. 3. May cause drowsiness or dizziness. H336

Environmental hazards: Aquatic Chronic 2. H411

2.2. Label Elements

Labelling according to Regulation (EC) 1272/2008



Signal word(s) DANGER

Hazard class(es) and category(ies)

Asp. Tox 1; STOT SE 3; Aquatic Chronic 1

Hazard statement(s)

H304: May be fatal if swallowed and enters the airways

H336: May cause drowsiness or dizziness

H411: Toxic to aquatic life with long lasting effects

Precautionary statements

P101: If medical advice is needed, have product container or label at hand

P102: Keep out of reach of children
P103: Read label before use
P260: Do not breathe vapours/spray
P270: Do not eat drink or smoke when using this product
P271: Use only outdoors or in a well ventilated area.
P273: Avoid release to the environment
P280: Wear protective gloves
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331: Do NOT induce vomiting
P391: Collect spillage
P501: Dispose of contents/container in accordance with local/national regulations

EUH208: Contains Clethodim. May produce an allergic reaction
EUH066: Repeated exposure may cause skin dryness or cracking
EUH401: To avoid risks to human health and the environment, comply with the instructions for use

2.3. Other hazards

None

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name and REACH registration no.	CAS No.	EC No.	Classification	Concentration (%)
			Regulation (EC) 1272/2008	
Clethodim	99129-21-2	-	Acute Tox. 4 – Skin Irrit. 2 –Skin Sens. 1 – Aquatic Chronic 3 H302, H315, H317, H412	12-15
Hydrocarbons, C10, aromatics, <1% naphthalene 01-2119463583-34-xxxx		918-811-1	Aquatic chronic 2 H411, asp. Tox. 1 H304, EUH066, STOT SE 3 H336, (Flam. Liq. 4 H227)	20-40
Fatty acids, tall-oil, ethoxylated	61791-00-2		Aquatic chronic 3 H412	0.5-5
Amines, tallow alkyl, ethoxylated, compounds with polyethylene glycol hydrogen sulfate C12-14-alkyl ether	184785-40-8		Eye Dam. 1 H318, Acute Tox. 4 H302, skin irrit. 2 H315, Aquatic acute 1 H400, Aquatic chronic 2 – H411	5-10
Hydrocarbons, C10-C13, aromatics, >1% naphthalene 01-2119451151-53-xxxx		926-273-4	Carc. 2 H351, Asp. Tox. 1 H304, Aquatic chronic 2 H411	1-5

For the complete text of H statements, please refer to Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

In general

Remove the affected person from the danger zone to a well-ventilated room or to fresh air, and protect from chilling. Do not administer anything by oral route and do not try to make vomit, call a treatment centre for poisoning cases or a doctor. Take the label where possible.

After Inhalation

Immediately remove to fresh air. Call a doctor immediately.

After eye contact

Rinse immediately and thoroughly with plenty of water during at least 10 to 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if pain or redness persists.

After skin contact

Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water.

After Ingestion

Call a doctor immediately and show the label. Do not induce vomiting.

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

None

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

Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable: Water spray, foam, dry chemical powder.

Unsuitable: Water jet.

5.2. Special hazards arising from substance or mixture

By thermal decomposition, possibility of formation of toxic gases (sulfur oxide, phosphorus oxide, nitrogen oxide, carbon oxide, chlorides)

5.3. Advice for firefighters

Intervention personnel should wear mask and individual respiratory equipment. Retain water or extinguishing media and eliminate safely.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective adapted equipment and take back non protected people. Withdrawal combustion and ignition sources and block bringing in oxygen (ventilation).

6.2. Environmental precautions

- Avoid sewage, surface water, ground water and soil contamination.
- Retain spilled liquids and collect them with sand or other absorbent inert material (sepiolite). Absorbent inert material stocks have to be sufficient to face reasonably predictable spillage.
- Keep sewers from potential spillage to minimize pollution hazards. Do not throw washing waters into sewers.
- Contact competent authorities when a situation cannot be controlled rapidly and efficiently.
- In the case of spillage into water, stop dispersion of the product with adequate barrier.

6.3. Methods and material for containment and cleaning up

- Collect contaminated products on the surface concerned, transfer to closed drums before sending in a specialized incineration treatment centre.
- Wash the contaminated surface with water and collect washing waters for treatment.
- Cover the contaminated zone using absorbent materials such as sand or sepiolite.
- See section 8 for personal protection and section 13 for disposal considerations.

6.4. Reference to other sections

Not applicable

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not eat, drink or smoke when using.

Wear appropriate protective clothes, adequate gloves (nitril), glasses or mask.

Avoid all contact of skin, eyes or clothes with new or old product.

Respect good hygienic body conditions and cleanliness of the working area.

Wash hands abundantly after handling.

Do not wash working clothes with household linen

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and animal feedingstuffs.

Store in a well closed container, in a fresh and well ventilated place.

Store under cover, in an appropriate room, away from heat and sources of fire, at temperature <35°C

Do not store in room temperature below -5°C

7.3. Specific end use(s)

Not applicable

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Not defined

8.2. Exposure controls

General measures

When using refer in priority to information written on the label.

Control of professional exposure

Respiratory protection

Preferably wear a mask covering all face with filter appropriate to organic vapour, powder or aerosol. A.P. Type filters.

Hand protection

Wear impermeable gloves, resistant to organic solvents and to chemical products.

Eyes protection

Preferably wear a mask, a face screen or protective glasses.

Skin protection

Wear appropriate protective clothes, covering all parts of the body.

Control of environment exposure

Respect European and National Regulations in term of environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Clear amber liquid
Odour	Aromatic solvent
pH	4.4 (1% aqueous solution)
Boiling point / range	ND
Flash point	74.9°C
Flammability	Not flammable
Explosives properties	Risks of explosion almost none in the recommended conditions of storage see point 7. Real risk in case of fire or accumulation of the emanations
Combustives properties	ND
Vapour pressure	ND
Relative density	0.9247 at 20°C
Solubility	- Water: Miscible with water in all proportions. Gives stable emulsion - Organic solvents: Miscible with almost all organic solvents.

9.2. Other information

Not applicable

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Product is not reactive under normal storage conditions

10.2. Chemical stability

Stable under recommended conditions for safe storage

10.3. Possibility of hazardous reactions

No hazardous reactions known under normal storage conditions

10.4. Conditions to avoid

Avoid storage at temperature > 35°C in a confined place.

10.5. Incompatible materials

Avoid contact with strong oxidant and strong reducing agent.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

The active ingredient Clethodim is unlikely to be genotoxic based on the available studies, and did not show any carcinogenic potential in rats or mice. In reproductive toxicity studies, no adverse effects were observed in the fertility parameters or in the development of the pups.

Hazard Classes	Asp. Tox. 1.
	STOT SE 3
	Aquatic Chronic 2
Acute toxicity	
By ingestion (rat)	LD ₅₀ > 5000 mg/kg bw
By skin contact (rat)	LD ₅₀ > 2000 mg/kg bw
By inhalation (rat)	LC ₅₀ (4 h) > 5.51 mg/L air
Skin irritation (rabbit)	Not irritating to skin
Eye irritation (rabbit)	Not irritating to eyes
Skin sensitisation (guinea-pig)	Not a skin sensitizer (M&K)
Subchronic toxicity	Oral NOAEL (90 day dog) = 21 mg ai/kg bw/day
Chronic toxicity	
Carcinogenic	No carcinogenic potential
Teratology	Not teratogen effect
Reproduction (development and fertility)	No effect on development and fertility
Mutagenicity effects	
Other	None

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity for aquatic organism (acute and chronic)	LC ₅₀ (96 h) fish (<i>Oncorhynchus mykiss</i>) = 8.98 mg fp/L
	EC ₅₀ (48 h) daphnia (<i>Daphnia magna</i>) = 29.4 mg fp/L
	ECr ₅₀ (72 h) algae (<i>Pseudokirchneriella subcapitata</i>) = 5.73 mg fp/L
	ECr ₅₀ (72 h) algae (<i>Anabaena flos-aquae</i>) = 7.43 mg fp/L
	NOEC (21 d) fish (<i>Oncorhynchus mykiss</i>) = 3.9 mg ai/L
	NOEC (21 d) daphnia (<i>Daphnia magna</i>) = 49 mg ai/L
Toxicity for birds (Clethodim)	LD ₅₀ bird > 2000 mg as/kg bw (<i>Colinus virginianus</i> , bobwhite quail). LC50 > 1035 mg as/kg bw/day (mallard duck)
Toxicity for bees	LD ₅₀ oral > 43 µg ai/bee
	LD ₅₀ contact > 51 µg ai/bee

12.2. Persistence and degradability

DT50 : 0.21 – 3.04 days (Clethodim)

12.3. Bioaccumulative potential

BCF factor (clethodim) = 2.1 L/kg wwt (Clethodim)

12.4. Mobility in soil

Not a leaching compound (Clethodim)

12.5. Results of PTB and vPvB assessment

Not a PBT nor A vPvB (Clethodim)

12.6. Other adverse effects

No other adverse effects known (Clethodim)

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment methods

Product/packaging

Disposal of important amounts must be made by duly authorized specialists. Incineration should be made in authorized and specialized plant. Eliminate the product and its packaging with care and in a responsible way. Do not throw near ponds, rivers, ditches or into sewers. Wash contaminated surfaces with water and collect washing waters for treatment. Make sure that local Regulations are respected.

Washing products

Do not throw into sewer. Do not contaminate natural waters. Clean up application materials on the treated area and eliminate waters by spraying on one area.

SECTION 14: TRANSPORT INFORMATION

Regulation	RID/ADR (Terrestrial)	IMDG (Maritime)	OACI/IATA (Aerial)
UN code	3082	3082	3082
Class	9	9	9
Specific point/code	M6		
Packing group	III	III	III
Environmental hazard classes		N	
Wording	Environmentally hazardous substance, liquid, n.o.s (Clethodim)		

SECTIONS 15: REGULATORY INFORMATION

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

Information regarding relevant Community safety, health and environmental provisions.

Clethodim is not concerned by the following regulation:

- **Regulation (EC) No 2037/2000** of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer,
- **Regulation (EC) No 850/2004** of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC or
- **Regulation (EC) No 689/2008** of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals)

15.2. Chemical safety assessment

Any Chemical Safety Assessment has been carried out for this mixture. This mixture is registered as a plant protection product under 91/414/EC directive, replaced by Regulation (EC) No. 1107/2009.

Refer to the label for exposure assessment information

SECTION 16: OTHER INFORMATION

Full text of H statements of dangerous substances according to the CLP/GHS classification (written in section 3)

- H302: Harmful if swallowed
- H304: May be fatal if swallowed and enters airways
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H318: Causes serious eye damage
- H319: Causes serious eye irritation
- H332: Harmful if inhaled
- H335: May cause respiratory irritation
- H351: Suspected of causing cancer
- H400: Very toxic to aquatic life
- H410: Very toxic to aquatic life with long lasting effects
- H411: Toxic to aquatic life with long lasting effects

H412: Harmful to aquatic life with long lasting effects

EUH208: Contains Clethodim. May produce an allergic reaction

EUH066: Repeated exposure may cause skin dryness or cracking

EUH401: To avoid risks to human health and the environment, comply with the instructions for use

Disclaimer: The above information is intended to give general health and safety guidance on the storage and transport of the product.

It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with. The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.

No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet