

MATERIAL SAFETY DATA SHEET

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

1.1 Product identifier

Product name : Penkiler

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

Use : Fungicide

1.3 Details of the supplier of the safety data sheet Company

CROWNBRIDGE MANAGEMENT L.P.
 Suite 260,2323 – 32Avenue
 N.8.Calgary,Alberta T2E623,
 Canada

1.4 Website : www.crownbridgetrading.com


SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Eye irritation	Category 2	H319
Reproductive toxicity	Category 2	H361d
Chronic aquatic toxicity	Category 2	H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Hazard pictograms		
		
Signal Word	:Warning	
Hazard Statements	:H319 :H361d :H411	Causes serious eye irritation. Suspected of damaging the unborn child. Toxic to aquatic life with long lasting effects.



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Precautions Statements	:P102 :P201 :P273 :P280 :P305/P351/P338 :P308/P313 :P337/P313 :P391 :P501	Keep out of reach of children. Obtain special instructions before use. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Collect spillage. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-hazardous waste.
Supplemental Information	:EUH401	To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- penconazole

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Chemical Name	CAS No. EC No. Registration Number	Classification (REGULATION (EC) No. 1272/2008)	Concentration
penconazole	66246-88-6 266-275-6	Acute Tox. 4; H302 Repr.2; H361d Aquatic Acute 1; H400 Aquatic Chronic1; H410	10.2 % w/w
cyclohexanone	108-94-1 203-631-1 01-2119453616-35-0005	Flam. Liq.3; H226 Eye Dam.1; H318 Acute Tox.4; H302 Acute Tox.4; H312 Acute Tox.4; H332 Skin Irrit.2; H315	5 – 15 % w/w
calcium dodecyl benzene sulphonate	26264-06-2 84989-14-0 90194-26-6 247-557-8 284-903-7 290-635-1	Skin Irrit.2; H315 Eye Dam.1; H318 Aquatic Chronic 3; H412	1 – 10 % w/w
2-methylpropan-1-ol	78-83-1 201-148-0 01-2119484609-23-0012	Flam. Liq.3; H226 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H335 STOT SE3; H336	1 – 5 % w/w

Substances for which there are Community workplace exposure limits.



For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

- General Advice** : Have the product container, label or Material Safety Data Sheet with you when calling the Crownbridge Management L.P. emergency number, a poison control centre or physician, or going for treatment.
- Inhalation** : Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.
- Skin Contact** : Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
- Eye Contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and

delayed Symptoms : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice : There is no specific antidote available.
Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

- 5.1 Extinguishing media**
Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Use alcohol-resistant foam or water spray.
Do not use a solid water stream as it may scatter and spread fire.
- 5.2 Special hazards arising from the substance or mixture**
As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.
- 5.3 Advice for fire-fighters:**
Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from firefighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8.



Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.2

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). If the product contaminates rivers and lakes or drains inform respective authorities.

6.3

Reference to other sections

Refer to protective measures listed in sections 7 and 8.

Refer to disposal considerations listed in section 13.

SECTION 7: HANDLING AND STORAGE

7.1

Precautions for safe handling

No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2

Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

7.3

Specific end use(s)

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label



SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit
cyclohexanone	100 mg/m ³	8 h TWA
	200 mg/m ³	15 min STEL
	80 mg/m ³	8 h TWA
	100 mg/m ³	8 h TWA IDLH
	700 ppm	8 h TWA
	10 ppm, 41 mg/m ³ (Skin)	15 min STEL
	20 ppm, 82 mg/m ³ (Skin)	8 h TWA
2-methylpropan-1-ol	10 ppm, 40.8 mg/m ³ (Skin)	15 min STEL
	20 ppm, 81.6 mg/m ³	
2-methylpropan-1-ol	50 ppm, 150 mg/m ³	Ceiling Limit Value
penconazole	7 mg/m ³	8 h TWA

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

8.2 Exposure controls

Engineering Measures : Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mist or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.



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- Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.
- Respiratory protection : No personal respiratory protective equipment normally required. A particular filter respirator filter may be necessary until effective technical measures are installed.
- Hand protection : Suitable material: Nitrile rubber.
Break through time: >480 min
Glove thickness: 0.5 mm
Chemical resistant gloves should be used.
Gloves should be certified to an appropriate standard.
Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure.
The breakthrough time of gloves varies according to the thickness, material and manufacturer.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye Protection : If eye contact is possible, use tight-fitting chemical safety goggles.
- Skin and body protection : Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation/penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.). Wear as appropriate: impervious protective suit.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	: Liquid
Form	: Liquid
Colour	: Light yellow to brownish
Odour	: Characteristic
Odour Threshold	: No data available
pH	: 4 – 8 at 1 % w/v
Melting point/range	: No data available
Boiling point/boiling range	: >143 °C
Flash point	: 62.5 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: 0.985 g/cm ³ at 20 °C
Solubility in other solvents	: No data available
Partition Coefficient n-octanol/water	: No data available
Autoignition temperature	: 210 °C
Thermal decomposition	: No data available
Viscosity, dynamic	: 7.53 mPa.s at 20 °C 4.37 mPa.s at 40 °C



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Viscosity, kinematic : No data available
Explosive properties : Not explosive
Oxidizing properties : Not oxidising

9.2 Other information

Miscibility : Miscible
Surface tension : 30.3 mN/m at 25 °C

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity : See section 10.3 "Possibility of hazardous reactions"

10.2 Chemical Stability : This product is stable when used in normal conditions

10.3 Possibility of hazardous reactions : No hazardous reactions by normal handling and storage according to provisions.

10.4 Conditions to avoid : No decomposition if used as directed

10.5 Incompatible materials : No substances are known which lead to the formation of hazardous substances or thermal reactions.

10.6 Hazardous decomposition products : Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity : LD50 female rat, 2,574 mg/kg
Acute inhalational toxicity : LC50 rat, > 5,294 mg/m³, 4 h
Acute dermal toxicity : LD50 male and female rat, > 4,000 mg/kg
Skin corrosion/irritation : Rabbit: non-irritating
Serious eye damage/eye irritation : Rabbit: irritating
Respiratory or skin sensitisation : Guinea pig: not a skin sensitiser in animal tests
Germ cell mutagenicity : Penconazole, cyclohexanone and 2-methyl propan-1-ol did not show mutagenic effects in animal experiments.
Carcinogenicity : Penconazole, cyclohexanone and 2-methyl propan-1-ol did not show carcinogenic effects in animal experiments.
Teratogenicity : 2-methylpropan-1-ol did not show any effects on foetal development.
Reproductive toxicity : Penconazole: Ingestion of excessive amounts by pregnant animals resulted in maternal and foetal toxicity. These concentrations exceeded relevant human dose levels.
Cyclohexanone and 2-methyl propan-1-ol did not show any effects on fertility in animal experiments.
STOT – single exposure : Calcium dodecylbenzene sulphonate may cause respiratory irritation.
2-methylpropan-1-ol may cause drowsiness or dizziness and may cause respiratory irritation.
STOT – repeated exposure : No adverse effect has been observed in chronic toxicity tests of penconazole



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SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

- Toxicity to fish** : LC50 *Oncorhynchus mykiss* (rainbow trout), 6.8 mg/l, 96 h
Toxicity to aquatic invertebrates : EC50 *Daphnia magna* (water flea), 36 mg/l, 48 h
Toxicity to aquatic plants : EbC50 *Dedmodesmus subspicatus* (green algae), 3.9 mg/l, 72 h
ErC50 *Dedmodesmus subspicatus* (green algae), 7.9 mg/l, 72 h

12.2 Persistence and degradability

- Biodegradability** :
penconazole : Not readily biodegradable.
Stability in water
penconazole : Degradation half life: > 706 d. Persistent in water
Stability in soil
penconazole : Degradation half life: 138 d. Not persistent in soil

12.3 Bioaccumulative potential

- penconazole : Does not bioaccumulate.

12.4 Mobility in soil

- penconazole : Very high mobility in soil.

12.5 Results of PBT and vPvB assessment

- penconazole, cyclohexanone, 2-methylpropan-1-ol : These substances are not considered to be persistent, bioaccumulating nor toxic (PBT).
These substances are not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Product** : Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging : Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

SECTION 14: TRANSPORT INFORMATION

Land transport (ADR/RID)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENCONAZOLE)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	;	III
	Labels	:	9
14.5	Environmental hazards Tunnel restriction code	:	Environmentally hazardous E

Sea transport(IMDG)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENCONAZOLE)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	:	III
Labels		:	9
14.5	Environmental hazards	:	Marine Pollutant

Air transport (IATA-DGR)

14.1	UN Number	:	UN 3082
14.2	UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENCONAZOLE)
14.3	Transport hazard class(es)	:	9
14.4	Packing Group	:	III
Labels		:	9
14.6	Special precautions for user	:	None

14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

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

GHS-Labeling

Hazard pictograms



Signal Word :Warning

Hazard Statements	:H319	Causes serious eye irritation.
	:H361d	Suspected of damaging the unborn child.
	:H411	Toxic to aquatic life with long lasting effects.
Precautions Statements	:P102	Keep out of reach of children.
	:P201	Obtain special instructions before use.
	:P273	Avoid release to the environment.
	:P280	Wear protective gloves/protective clothing/eye protection/face protection.
	:P305/P351/P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	:P308/P313	If exposed or concerned: Get medical advice/attention.
	:P337/P313	If eye irritation persists: Get medical advice/attention.
	:P391	Collect spillage.
	:P501	Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection



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Supplemental Information	:EUH401	site except for empty clean containers which can be disposed for as non-hazardous waste. To avoid risks to human health and the environment comply with the instructions for use.
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Hazardous components which must be listed on the label:

- penconazole

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION

Further information

Approval number, MAPP 16765

Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 02/03/2015, version 17 with local amendment.

Full text of H-Statements referred to under sections 2 and 3.

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
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.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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