

DIRECTIONS FOR USE

Crops/Situations	Maximum individual dose	Maximum number of treatments
Moorland, Grassland and Amenity Vegetation	11.0 litres/product/hectare	One per year
Forest	10.0 litres/product/hectare	One per year

Moorland, grassland and amenity vegetation

BRACKEN CONTROL

RESTRICTIONS

This product must only be applied in accordance with the terms of this Emergency Authorisation and the product label. Applications made via hand-held equipment must be made in a maximum concentration of 1 part product to 100 parts water. Fronds must not be damaged by stock, frost (bronzed and stunted fronds) or by cutting before treatment. DO NOT apply during or immediately after drought periods or in conditions of high temperature and low humidity. DO NOT cut bracken for at least 4 weeks after spraying to permit movement of ASULOX to rhizome buds; preferably leave undisturbed until late autumn. DO NOT admit stock for 4 weeks after treatment to avoid a) trampling of treated fronds and b) the risk of poisonous weeds such as ragwort being rendered palatable by the treatment. At least 6 weeks should elapse between applying ASULOX and sowing or planting any subsequent crop. DO NOT use adjuvants with ASULOX in forestry situations when overspraying trees. To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

WEEDS CONTROLLED

NOTE: No outward signs of the effects of ASULOX on bracken will be observed during the current season following application. The effects only become apparent the following spring when normal frond emergence in treated bracken fails to occur. Apply ASULOX on a dry day. Ideally, there should be 24 hours without rain to allow for adequate uptake of ASULOX into the bracken plant. Light rain after 6 hours should not adversely affect activity.

Primary clearance treatments and containment

Bracken should be treated in full frond (all fronds fully expanded) but before yellowing (start of senescence). Normally this will be within the period mid July to late August.

Follow up treatments for bracken clearance

Because of dormant buds on the rhizome system of bracken, complete control will not be achieved by a single application of ASULOX. If bracken is to be cleared, annual re-treatment of re-growth using spot applications is essential. Re-growth tends to be stunted but should be treated at the same timing as primary applications, irrespective of the state of frond development. IF NO FOLLOW UP TREATMENT OR LAND IMPROVEMENT PROGRAMME IS CARRIED OUT, THE LAND IS LIKELY TO BE RE-INFESTED WITH BRACKEN WITHIN 5 YEARS OF A PRIMARY APPLICATION.

MIXING

Depending on application method (see below), ASULOX can be applied in a water based system with or without a suitable adjuvant (See the Chemicals Regulation Directorate Official List for details). Adjuvants enhance the uptake of ASULOX by the bracken fronds thereby improving reliability under adverse conditions. Adjuvants should NOT be used in forestry situations when overspraying trees or other situations where selectivity of the applied spray may be critical.

Half fill the spray tank or container with water and then pour in the required amount of ASULOX. Top up with water then add an adjuvant where this is required. Ensure thorough mixing before commencing spraying.

CROP SPECIFIC INFORMATION

Only one application should be made per crop/situation per year.

As a general rule, no bracken spraying should be attempted along stream banks, wet gulleys, screes and other locations where rare or unusual plants are often to be found.

Grassland species tolerance to ASULOX

Some grasses and herbs may be damaged by ASULOX. In practice, a dense bracken canopy protects the underlying vegetation and any check to these species is usually only temporary. The more sensitive species include Yorkshire fog, Timothy, Cock's foot, bents, annual meadow grass, daisy, docks, plantains, saxifrage and all other ferns.

Tree species tolerance to ASULOX

Most species are unaffected. However, young specimens of the following may exhibit chlorosis and a slight check in growth if directly sprayed whilst actively growing:

Beech	Grand fir	Scots pine
Birch	Japanese larch	Bilberry
Corsican pine	Norway spruce	Gorse
Douglas fir	Poplar	Heathers
Elm	Sitka spruce	

Mature specimens of the above, as well as hawthorn, holly and rowan will be unharmed. Western hemlock and willows are more susceptible and spraying of these species should be avoided.

A. BRACKEN CONTROL IN MOORLAND, GRASSLAND AND AMENITY VEGETATION

BRACKEN CONTROL IN GRASSLAND AND AMENITY VEGETATION	
TRACTOR MOUNTED SPRAYER (& other vehicle mounted sprayers) - OVERALL treatment	Apply ASULOX at 11 L/ha in 400 - 500 L/ha of water as a MEDIUM or COARSE spray (BCPC category). Adjust boom height to give uniform coverage at the top of the bracken fronds.
KNAPSACK SPRAYER or HAND LANCE (Hand operated) - SPOT and OVERALL spray treatment	Mix 1 part ASULOX with 100 parts water (see Guide to Dilution Rates) and an adjuvant (0.1%). Avoid spraying to run-off. The knapsack lance should be fitted with a nozzle to apply a MEDIUM or COARSE spray (BCPC category). A red food stuffs dye may be mixed with the spray to help identify treated fronds.

B. BRACKEN CONTROL IN FORESTRY AREAS

DO NOT use adjuvants / wetters with ASULOX in forestry situations when overspraying trees.

Releasing treatments in forestry and habitat management

Apply ASULOX at 5-10 L/ha depending on vegetation requirements. The higher rate (10 L/ha) will provide a longer period of bracken suppression and "release".

Bracken control for tree planting programmes in forestry

New planting:

Pre-planting: Treat mature bracken in late summer pre-planting. Leave bracken undisturbed until it dies back, then plant up in accordance with normal forestry practice. DO NOT re-plant for at least 4 weeks after spraying. Post planting: Allow at least 4 weeks between application and cutting or clearing bracken from small trees.

Re-planting:

Spring & early summer felling: treat mature bracken re-growth in late summer pre-planting.

Late summer / autumn felling: treat area before felling (treatment after felling may show reduced efficacy where felling has damaged bracken stands). Leave at least 4 weeks between treatment and felling to allow translocation of ASULOX to the rhizomes.

(Mid-summer felling conflicts with the timing of ASULOX applications as the bracken is immature before felling and bracken re-growth has no time to mature after felling)

BRACKEN CONTROL IN FORESTRY AREAS	
TRACTOR SPRAYER (& other vehicle mounted sprayers) - OVERALL treatment	Apply ASULOX at 5-10 L/ha in 200 - 300 L/ha of water as a MEDIUM or COARSE spray. Adjust boom height to give uniform coverage at the top of the bracken fronds.
KNAPSACK SPRAYER or HAND LANCE (Hand operated) - SPOT and OVERALL spray treatment	Mix 1 part ASULOX with 100 parts water (see Guide to Dilution Rates). Avoid spraying to run-off. A red food stuffs dye may be mixed with the spray to help identify treated fronds.

For guidance on dilution rates for spot treatments to control bracken, see COMPANY ADVISORY INFORMATION section of the label.

COMPANY ADVISORY INFORMATION

BRACKEN CONTROL: GUIDE TO DILUTION RATES FOR SPOT TREATMENT

Dilution rates for 1 part ASULOX to 100 parts water.

Knapsack Sprayer:

Sprayer capacity (litres)	Amount of ASULOX per filling (ml)
5	50
7	70
12	120
20	200

RESISTANCE

Total reliance on one pesticide will hasten the development of resistance. Pesticides of different chemical types or alternative control measures should be included in the planned programme. Alternating with different modes of action is a recognised anti resistance strategy.

Standard Sprayer with Hand-lance:

Sprayer capacity (litres)	Amount of ASULOX per filling (litres)
200	2
250	2.5
400	4
500	5

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Identification of the product	
Product code:	HBM01
Product Description:	ASULOX
Synonyms:	Asulam 400 SL
Pure substance/preparation:	Preparation
1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against	
Recommended use:	Herbicide
1.3 Details of the Supplier of the Safety Data Sheet	
Supplier:	UPL Europe Ltd The Centre Birchwood Park Warrington WA3 6YN Cheshire, UK Tel. : +44 (0) 1925 819999 Fax : +44 (0) 1925 856075 info.uk@uniphos.com

E-mail address:

1.4 Emergency Telephone Number

Emergency telephone number:

Ireland: (CARECHEM 24): +44 (0) 1235 239670
National Poisons Information Centre (IE): +353 1 8379964

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC

R-code(s): Xi;R43
N;R50/53

For the full text of the R phrases mentioned in this Section, see Section 16

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitization Category 1 - H317

Acute aquatic toxicity Category 1 - H400

Chronic aquatic toxicity Category 1 - H410

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

2.2 Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]



Signal word:

Hazard statements

H317 - May cause an allergic skin reaction

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P273 - Avoid release to the environment

P280 - Wear protective gloves/ protective clothing

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P391 - Collect spillage

P501 - Dispose of contents/ container in accordance with national regulation

EU Specific Hazard Statements

H410 - To avoid risks to human health and the environment, comply with the instructions for use

2.3 Other Hazards

No information available

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical name	EC No	CAS-No	Weight %	Classification (Dir.67/548)	EU - GHS Substance Classification	REACH No.
Asulam sodium	218-953-8	2302-17-2	40 - 50	Xi;R43 N;R50/53	Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	no data available

For the full text of the R phrases mentioned in this Section, see Section 16

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

4. FIRST AID MEASURES

4.1 Description of first-aid measures

General advice:

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists, consult a specialist.

Skin contact:

Wash off immediately with plenty of water.
If symptoms persist, call a physician.
Ingestion: Rinse mouth with water.
Call a POISON CENTER or doctor if you feel unwell.

Inhalation:

Move to fresh air.
Call a POISON CENTER or doctor if you feel unwell.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

No information available.

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO2)
Dry powder
Foam
Water spray

Unsuitable extinguishing media:

Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Burning produces obnoxious and toxic fumes.

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas.
Avoid contact with the skin and the eyes.

6.2 Environmental Precautions

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

6.3 Methods and materials for containment and cleaning up

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Handling
Provide adequate ventilation.
Ensure that eyewash stations and safety showers are close to the workstation location.
Avoid contact with skin and eyes.

Hygiene Measures

Use only outdoors or in a well-ventilated area.
Wash hands after handling.
Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.
Keep away from food, drink and animal feeding stuffs.
Store away from frost.

7.3 Specific end uses

No information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits: Apply technical measures to comply with the occupational exposure limits
<http://www.ser.nl/nl/taken/adviserende/grenswaarden.aspx>

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2 Exposure Controls

Engineering controls: Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye protection: Safety glasses with side-shields.

Skin protection: Long sleeved clothing.

Hand protection: Protective gloves.

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental exposure controls: No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Yellowish	
Physical state:	liquid	
Odor:	No information available	
Property	VALUES	Remarks/Method
pH:	7 – 8	
Melting point/freezing point:	No information available	
Boiling Point/Range:	No information available	
Flash Point:	No information available	
Flammability (solid, gas):	Not required	
Specific gravity:	1.204 g/l	
Water solubility:	Miscible with water	
Solubility in Other Solvents:	No information available	
Partition coefficient: n-octanol/water:	No information available	
Autoignition temperature:	No information available	
Decomposition temperature:	No information available	
Viscosity:	No information available	
Oxidizing properties:	Non oxidizing (according to A17 test)	
Explosive properties:	According to the chemical structure no explosion reaction is expected.	
9.2 Other information		
VOC Content:	No information available	

10. STABILITY AND REACTIVITY

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No information available.

10.4 Conditions to avoid

Avoid extreme high or low temperatures.

Exposure to light.

10.5 Incompatible Materials

No materials to be especially mentioned.

10.6 Hazardous Decomposition Products

No information available.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute toxicity	
Local effects	
Inhalation:	Not classified.
Eye contact:	No eye irritation. (rabbit).
Skin contact:	No skin irritation. (rabbit).
Ingestion:	Not classified.
LD50 Oral:	> 8000 mg/kg (rat)
LD50 Dermal:	> 2000 mg/kg (rat)
LC50 Inhalation:	> 1.7 mg/l
Chronic toxicity	
Skin Corrosion/Irritation:	No information available.
Sensitization:	May cause sensitization by skin contact.
Carcinogenic effects:	No information available.
Mutagenic effects:	No information available.
Reproductive effects:	No information available.
STOT - Single Exposure:	No information available.
STOT - repeated exposure:	No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

EC50/72h/algae = >0.66 mg Asulam/L
EC50/48h/daphnia = 57.87 mg Asulam/L
LC50/fish/96 h = >91.3 mg Asulam/L
EC50/14d/aquatic plants = 0.27 mg Asulam/L

Chemical name	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Asulam sodium	72-hour EC50 >0.66 mg asulam/L / NOEC 0.017 mg asulam/L			

12.2 Persistence and Degradability

No information available.

12.3 Bioaccumulative Potential

No information available.

12.4 Mobility in Soil

No information available.

12.5 Results of PBT and vPvB Assessment

No information available.

12.6 Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Waste from Residues / Unused Dispose of in accordance with local regulations.

Products:

Empty containers should be taken for local recycling, recovery or waste disposal.

020108 - agrochemical waste containing dangerous substances.

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other information:

14. TRANSPORT INFORMATION

ADR/RID

14.1 UN-No: UN3082
14.2 Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Asulam sodium)
14.3 Hazard class: 9
14.4 Packing group: III
14.5 Environmental Hazard: Yes
14.6 Special Provisions: 274, 335, 375, 601
Tunnel restriction code: (E)

IMDG/IMO

14.1 UN-No: UN3082
14.2 Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (Asulam sodium)
14.3 Hazard class: 9
14.4 Packing group: III
14.5 Environmental Hazard: Marine pollutant
14.6 Special Provisions: 274, 335, 969

IATA/ICAO

14.1 UN-No: UN3082
14.2 Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (Asulam sodium)
14.3 Hazard class: 9
14.4 Packing group: III
14.5 Environmental Hazard: Yes
14.6 Special Provisions: A97, A158, A197

15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Registration n°: 05388
- To avoid risks to man and the environment, comply with the instructions for use.

International Inventories

TSCA:	Complies
EINECS/ELINCS:	Complies
DSL/NDSL:	Complies
PICCS:	Complies
ENCS:	Complies
China:	-
AICS:	Complies
KECL:	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory.
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List.
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances.
PICCS - Philippines Inventory of Chemicals and Chemical Substances.

ENCS - Japan Existing and New Chemical Substances.

IECSC - China Inventory of Existing Chemical Substances.

AICS - Australian Inventory of Chemical Substances.

KECL - Korean Existing and Evaluated Chemical Substances.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R43 - May cause sensitization by skin contact

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

H317 - May cause an allergic skin reaction

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Revision date: 26-May-2015

Revision note: Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information contained is based on our knowledge of the product at the date of publishing. It applies to the PRODUCT AS SUCH. In case of formulation or mixture, make sure that a new danger will not appear. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and duplicated for prevention and Safety purposes.

For rates and use recommendations, refer to the information displayed on the packaging.

It is the responsibility of the handlers of the product to pass on this safety data sheet to any subsequent persons who will come into contact with the product.



ASULOX®

PCS No. 05388



A post emergence translocated herbicide for the control of bracken.
A soluble concentrate containing 400 g/L (33.6% w/w) of the sodium salt of asulam.

SAFETY INFORMATION



WARNING

May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

Wear protective gloves/protective clothing.
IF ON SKIN: Wash with plenty of water.
Avoid release into the environment.
Collect spillage.

Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

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

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

UN 3082

PCS No. 05388

BATCH NO.



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Contents

5 Litres

ASULOX/SL/F/0615/UPL

June 2015