## 1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product Code: PN350**

| | |
|---|---|
| **Product Name** | **Tailout** |
| **Use of the Substance/Preparation** | Herbicide |
| **Company identification** | ProKlass Products Limited<br>20-22 Wenlock Road<br>London<br>N1 7GU<br><br>Email: office@proklass-products.com |
| **Poisoning Situations** | Call ProKlass Products Limited **+44 (0) 1480 810137** |
| **Additional information available from** | For advice on medical emergencies, fires, spillages or chemical hazards ONLY: **+44 (0) 1480 810137** |

## 2. HAZARDs IDENTIFICATION

**2.1 Classification of the substance or mixture:**

Classification according to Regulation EC No 1272/2008

Reproductive toxicity: Category 1B
H360Fd May damage fertility. Suspected of damaging the unborn child.

Acute toxicity: Category 4
H302 Harmful if swallowed.

Acute toxicity: Category 3
H311 Toxic in contact with skin.

Specific target organ toxicity - repeated exposure: Category 2
H373 May cause damage to organs (nervous system) through prolonged or repeated exposure if swallowed.

Serious eye damage: Category 1
H318 Causes serious eye damage.

**2.2 Label elements:**

Labelling according to Regulation EC No 1272/2008 (CLP)

**Signal word Danger**

H-statements
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H318: Causes serious eye damage.
H360Fd: May damage fertility. Suspected of damaging the unborn child.
H373: May cause damage to organs (nervous system) through prolonged or repeated exposure if swallowed.
EUH401: To avoid risks to human health and the environment, comply with the instructions for use.

P-statements
P201: Obtain special instructions before use.
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.
P501: Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as nonhazardous waste.

**2.3 Other hazards**

No other hazards known

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.2 Mixtures**

Chemical nature
Soluble concentrate (SC)

Hazardous components
Hazard statements according to Regulation (EC) No. 1907/2006

| Name | CAS No/ EC No | Conc. (C) | Classification according to CLP |
|---|---|---|---|
| Glufosinate ammonium | 77182-82-2/ 278-636-5 | 13.50% | Repr. 1B, H360Fd<br>Acute Tox. 4, H332<br>Acute Tox. 4, H312<br>Acute Tox. 4, H302<br>STOT RE 2, H373 |
| Alkylethersulfate, sodium salt | 68891-38-3/ 500-234-8 | >10.00% | Eye Dam. 1, H318<br>Skin Irrit. 2, H315<br>Aquatic Chronic 3, H412 |
| 1-Methoxy-2- propanol | 107-98-2/ 203-539-1 | >1.00- <15.00 | Flam. Liq. 3, H226<br>STOT SE 3, H336 |

For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

**4.1 Description of first aid measures:**

General:
Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation:
Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin contact:
Wash off immediately with soap and plenty of water. Call a physician or poison control center immediately.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion:
Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

**4.2 Most important symptoms and effects, both acute and delayed:**

Vomiting, Diarrhoea, Abdominal pain, Tremors, Hypotension, muscular weakness, Unconsciousness, Coma, Convulsions, Respiratory failure, Nausea, Tachycardia.
Symptoms may be delayed.

**4.3 Indication of any immediate medical attention and special treatment needed:**

Risks
Watch victim for at least 48 hours because of possible delayed signs of poisoning.

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Forced alkaline diuresis and hemodialysis may be considered. There is no specific antidote. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Oxygen or artificial respiration if needed. Keep respiratory tract clear. ECG – monitoring (Electrocardiogram). EEG - monitoring (Electroencephalogram).
Monitor: respiratory, cardiac and central nervous system. Keep under medical supervision for at least 48 hours.

## 5. FIRE-FIGHTING MEASURES

**5.1 Suitable extinguishing media:**

Suitable extinguishing media:
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:
High volume water jet.

**5.2 Special hazards arising from the substance or mixture:**

In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Oxides of phosphorus, Nitrogen oxides (NOx)

**5.3 Advice for firefighters:**

Special protective equipment for fire-fighters:
In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information
Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures:**

Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

**6.2 Environmental precautions:**

Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

**6.3 Methods and material for containment and cleaning up:**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections:**

Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

## 7. HANDLING AND STORAGE

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

**7.1 Precautions for safe handling:**

Advice on safe handling
No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.

Hygiene measures
Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

**7.2 Conditions for safe storage, including any incompatibilities:**

Requirements for storage areas and containers:
Keep only in the original container. Meet the legal requirements.

Advice on common storage
Keep away from food, drink and animal feedingstuffs.

Suitable materials
HDPE (high density polyethylene)

**7.3 Specific end use(s):**

Refer to the label and/or leaflet.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters:**

| Components | CAS-No | Control parameters |
|---|---|---|
| Glufosinate ammonium | 77182-82-2 | 0.9 mg/m$^3$ (TWA) |
| 1-Methoxy-2-propanol | 107-98-2 | 375 mg/m$^3$/100 ppm (TWA) |
| 1-Methoxy-2-propanol | 107-98-2 | 560 mg/m$^3$/150 ppm (STEL) |
| 1-Methoxy-2-propanol | 107-98-2 | 568 mg/m$^3$/150 ppm (STEL) |
| 1-Methoxy-2-propanol | 107-98-2 | 375 mg/m$^3$/100 ppm (TWA) |

**8.2 Exposure controls:**

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection:
Respiratory protection is not required under anticipated circumstances of exposure.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection
Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection
Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection:
Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties:**

Form: Liquid
Colour: blue to blue green
Odour: weakly pungent
pH: 6.8 - 7.8 at 100 % (23 °C)
Boiling point/boiling range: ca. 99 °C at 1,013 hPa - Test conducted with a similar formulation.
Flash point: ca.57 °C - The product does not sustain combustion.
Autoignition temperature: ca. 405 °C
Density: ca. 1.11 g/cm³ at 20 °C
Partition coefficient n-octanol/water: Glufosinate-ammonium: log Pow: -4.01 at pH 7
Surface tension: ca. 29 mN/m at 40 °C
Impact Sensitivity: Not impact sensitive.
Explosivity: Not explosive

**9.2 Other information:**

Further safety related physical-chemical data are not known.

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity:**

Thermal decomposition
> 200 °C, Heating rate: 10 K/min
Test conducted with a similar formulation.

**10.2 Chemical stability:**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions:**

No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid:**

Extremes of temperature and direct sunlight.

**10.5 Incompatible materials:**

Bases.

**10.6 Hazardous decomposition products:**

Ammonia

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects:**

Acute oral toxicity: LD50 (rat) 1,730 mg/kg
Acute inhalation toxicity: LC50 (rat) 2.97 mg/l
Exposure time: 4 h
Determined in the form of a respirable aerosol.
During intended and foreseen applications, no respirable aerosol is formed.
Acute dermal toxicity: LD50 (rat) 593 mg/kg
Skin irritation: Slight irritant effect - does not require labelling. (rabbit)
Eye irritation: Severe eye irritation. (rabbit)
Sensitisation: Non-sensitizing. (guinea pig)
OECD Test Guideline 406, Buehler test

**Assessment repeated dose toxicity**
Glufosinate-ammonium caused neurobehavioral effects and/or neuropathological changes in animal studies. Glufosinate-ammonium was well tolerated in rats and mice but less well tolerated in the dog in subchronic studies.

**Assessment Mutagenicity**
Glufosinate-ammonium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment Carcinogenicity**
Glufosinate-ammonium was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**
Implantation loss occurred in a rat multigeneration study with Glufosinate-ammonium. There were no effects on male fertility.

**Assessment developmental toxicity**
Glufosinate-ammonium caused developmental toxicity only at dose levels toxic to the dams.
Glufosinate-ammonium caused an increased incidence of post implantation losses.

**Further information**
The toxicological data refer to a similar formulation.

## 12. ECOLOGICAL INFORMATION

**12.1 Toxicity:**

| | |
|---|---|
| **Toxicity to fish:** | LC50 (*Oncorhynchus mykiss* (rainbow trout)) 13.4 mg/l<br>Exposure time: 96 h<br>Test conducted with a similar formulation. |
| **Toxicity to aquatic invertebrates:** | EC50 (*Daphnia magna* (Water flea)) 17.8 mg/l<br>Exposure time: 48 h<br>Test conducted with a similar formulation. |
| **Toxicity to aquatic plants:** | EC50 (*Selenastrum capricornutum*) 71.3 mg/l<br>Exposure time: 72 h<br>Test conducted with a similar formulation. |
| **Toxicity to bacteria:** | EC50 (activated sludge) > 1,000 mg/l<br>Exposure time: 3 h<br>The value mentioned relates to the active ingredient glufosinate ammonium. |

**12.2 Persistence and degradability:**

Biodegradability
Glufosinate-ammonium: not rapidly biodegradable
Koc Glufosinate-ammonium: Koc: 2.3

**12.3 Bioaccumulative potential:**

Bioaccumulation
Glufosinate-ammonium: Bioconcentration factor (BCF) 1<
Does not bioaccumulate.

**12.4 Mobility in soil:**

Glufosinate-ammonium: Highly mobile in soils

**12.5 Results of PBT and vPvB assessment:**
Glufosinate-ammonium: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

**12.6 Other adverse effects:**

Additional ecological information
No other effects to be mentioned.

## 13. DISPOSAL INFORMATION

**13.1 Waste treatment methods:**

Product
In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.
Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packaging
Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times.
Add washings to sprayer at time of filling.
Dispose of empty and cleaned packaging safely.
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.
Return large containers to supplier.
Follow advice on product label and/or leaflet.

Waste key for the unused product
**020108** agrochemical waste containing dangerous substances.

## 14. TRANSPORT INFORMATION

**ADR/RID/ADN**

**14.1 UN Number:** 2902
**14.2 Proper shipping name:** PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION)
**14.3 Transport hazard classes:** 6.1
**14.4 Packing group:** III
**14.5 Environmental Hazardous Mark:** NO
Hazard No.: 60
Tunnel Code: E

**IMDG**

**14.1 UN Number:** 2902
**14.2 Proper shipping name:** PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION)
**14.3 Transport hazard classes:** 6.1
**14.4 Packing group:** III
**14.5 Marine pollutant:** NO
Segregation group according to 5.4.1.5.11.1: IMDG SEGREGATION GROUP 2 – AMMONIUM COMPOUNDS

**IATA**

**14.1 UN Number:** 2902
**14.2 Proper shipping name:** PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION)
**14.3 Transport hazard classes:** 6.1
**14.4 Packing group:** III
**14.5 Environmental Hazardous Mark:** NO

**UK 'Carriage' Regulations**

**14.1 UN Number:** 2902
**14.2 Proper shipping name:** PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION)
**14.3 Transport hazard classes:** 6.1
**14.4 Packing group:** III
**14.5 Environmental Hazardous Mark:** NO
Emergency action code: 2X

**14.6 Special precautions for user**
See sections 6 to 8 of this Safety Data Sheet.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
No transport in bulk according to the IBC Code.

## 15. REGULATORY INFORMATION

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

**UK and Northern Ireland Regulatory References**
This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

**Transport**
Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)
Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

**Supply and Use**
Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)
Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009
Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)
EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits
Control of Pesticide Regulations 1986
Dangerous Substances and Explosive Atmospheres Regulations 2002

**Waste Treatment**
Environmental Protection Act 1990, Part II
Environmental Protection (Duty of Care) Regulations 1991
The Waste Management Licensing Regulations 1994 (as amended)
Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)
Landfill Directive
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

Water Resources Act 1991
Anti-Pollution Works Regulations 1999

**Further information**
WHO-classification: II (Moderately hazardous)

**15.2 Chemical Safety Assessment**
A chemical safety assessment is not required.

## 16. OTHER INFORMATION

**Full text of any H-statements referred to under headings 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.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H360Fd May damage fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

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