



Safety Data Sheet

United Phosphorus, Inc.

Preparation Date 21-Apr-2015

Revision date 05-Nov-2015

Revision Number: 2

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Description: Asulox Herbicide

Other means of identification

Item#: 12U-109
Synonyms Not Available
Registration number(s) 70506-139

Recommended use of the chemical and restrictions on use

Recommended use Herbicide.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet

Supplier Address

United Phosphorus Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number

Company Phone Number 1-800-438-6071
Emergency telephone number Chemtec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Skin Corrosion/Irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1

Label elements

EMERGENCY OVERVIEW

DANGER

hazard statements

Harmful in contact with skin
Toxic if inhaled
CAUSES SKIN IRRITATION
Causes serious eye damage
May cause an allergic skin reaction

**appearance** brown**Physical state** liquid**Odor** odorless**Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection
 Do not get in eyes, on skin, or on clothing
 Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

Specific treatment (see .? on this label)
 Specific treatment (see .? on this label)
 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN: Wash with plenty of soap and water
 Call a POISON CENTER or doctor if you feel unwell
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)**OTHER INFORMATION**

- Very toxic to aquatic life with long lasting effects
- Very toxic to aquatic life
- May be harmful in contact with skin

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Ammonium hydroxide	1336-21-6	2.1	
Asulam sodium	2302-17-2	35-37	
Ethoxylated tallowamine	61791-26-2	2.2	
Citric acid	77-92-9	2.1	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES**Eye contact**

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact	Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water for at least 15 minutes. Call poison control center or doctor for treatment advice.
Inhalation	Call a physician or poison control center immediately. Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
Ingestion	Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician No information available. Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Carbon dioxide (CO₂). Dry chemical. Foam. Water.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products Carbon oxides. Oxides of nitrogen. Sulfur oxides.

Explosion data**Protective equipment and precautions for firefighters**

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with the skin and the eyes. Provide adequate ventilation. Use personal protective equipment.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Keep out of reach of children. Wear personal protective equipment. Avoid breathing vapors or mists. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

Storage	Keep in a dry, cool and well-ventilated place. Do not transport or store below -6 C. Keep containers tightly closed in a cool, well-ventilated place.
incompatible materials	Acids.

8. Exposure Controls/Personal Protection

Exposure guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering controls	Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.
Personal protective equipment	
Eye/Face Protection	Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields.
Skin protection	Neoprene gloves. Nitrile rubber. Impervious butyl rubber gloves. Chemical resistant protective clothing.
Respiratory protection	Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands and face before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical state	liquid	Odor	odorless
appearance	brown		
color	No information available		
Property	VALUES	Remarks/ • Method	
pH	7.5		
Melting point/freezing point	8.5 °C / 47 °F		
Boiling Point/Range	104 °C / 219 °F		
Flash Point	No information available		
Evaporation Rate	No information available		
flammability (solid, gas)	No information available		
Flammability limit in air			
Upper Flammability Limit	No information available		
Lower Flammability Limit	No information available		
vapor pressure	No information available		
Vapor Density	No information available		
Specific gravity	1.18 @ 20 C		
Water solubility	No information available		
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, kinematic	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

OTHER INFORMATION

Softening point	No information available
molecular weight	253.24 g/mol
VOC Content	No information available
density	No information available
Bulk density	10 lb/gal

10. Stability and Reactivity

Reactivity

no data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Freezing temperatures.

incompatible materials

Acids.

Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information	Asulox: Acute oral LD50: >5,000 mg/kg (rat) Acute dermal LD50: >2,000 mg/kg (rabbit) Acute inhalation LC50: >5 mg/L 4 hr (rat) Skin irritation: Non-irritating (rabbit) Eye irritation: Slightly irritating (rabbit)
Inhalation	May cause irritation of respiratory tract. May be harmful if inhaled.
Eye contact	May cause slight irritation.
Skin contact	May cause irritation.
Ingestion	May cause irritation. MAY BE HARMFUL IF SWALLOWED.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium hydroxide 1336-21-6	= 350 mg/kg (Rat)	-	-

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization No information available.
Mutagenic effects No information available.
Carcinogenicity Asulam:

The EPA has classified asulam as a Group C - possible human carcinogen - based on thyroid and adrenal tumors in rats. Carcinogenicity testing with Asulam sodium is not available. However, the EPA considers Asulam sodium as a "Possible Human Carcinogen" based on structure activity relationship.

Asulam or Asulam sodium is not listed as a carcinogen by the NTP, IARC or OSHA.

Mutagenicity
No mutagenic effects were observed in studies performed with asulam.

Reproductive/Developmental Toxicity
No reproductive or developmental effects (teratogenicity) were observed in studies performed with Asulam. .

Reproductive effects
STOT - Single Exposure Not Available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral > 5000 mg/kg (rat)
LD50 Dermal > 2000 mg/kg (rabbit)
LC50 Inhalation: > 5 mg/l (4-hr) (rat)

12. Ecological Information

ecotoxicity

Do not apply directly to water to areas where surface water is present or to intertidal areas below the mean high water mark. Do not clean equipment or dispose of equipment washwater in a manner that will contaminate water resources or areable land. Do not apply when weather conditions favor drift from treated areas.

Persistence/Degradability
No information available.

Bioaccumulation/ Accumulation
No information available.

Chemical name	Log Pow
Citric acid 77-92-9	-1.72

Other Adverse Effects
No information available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. Do not apply directly to wetlands or water.

Contaminated packaging Do not re-use empty containers. Refer to product label.

Chemical name	Ammonium hydroxide
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14. Transport Information

<u>DOT</u>	NOT REGULATED
<u>TDG</u>	NOT REGULATED
<u>IATA</u>	NOT REGULATED
<u>IMDG/IMO</u>	NOT REGULATED

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION

Ventilation Control PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Keep out of Reach of Children. Harmful if absorbed through the skin. Prolonged or frequent repeated skin contact may cause allergic reaction in some individuals.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ ELINCS	Does not comply
ENCS	Does not comply
China	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply
TSCA	Does not comply

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 Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazardous

Categorization

Acute health hazard	yes
Chronic health hazard	NO
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ammonium hydroxide 1336-21-6	1000 lb			X

Chemical name	RQ	CERCLA EHS RQs	RQ
Ammonium hydroxide 1336-21-6	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

CERCLA

Component	RQ
Ammonium hydroxide 1336-21-6 (2.1)	1000 lb

SARA Product RQ 0

RCRA

Pesticide Information

State Regulations

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ammonium hydroxide	X	X	X		

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-139

16. Other Information

NFPA **HEALTH** 2 **flammability** 0 **Instability** 0 **Physical hazard** -

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Revision Summary

Update section 11

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End of MSDS