



SAFETY DATA SHEET

Axill Solutions Glufosinate 280SL

1. IDENTIFICATION

Product identifier

Product Name Axill Solutions Glufosinate 280SL

Other means of identification

Product Code 93809-14
Synonyms None
Registration Number(s) 93809-14

Recommended use of the chemical and restrictions on

use Recommended Use Herbicide
Uses advised against No information available

Details of the supplier of the safety data sheet**Manufacturer Address**

Axill Solutions
422 Jasmine Way
Roseburg, OR97471
(559) 936-0444

Emergency telephone number

CHEMTREC: 800-424-9300

Company Phone Number

CHEMTREC: 703-527-3887

Emergency Telephone

POISON CONTROL CENTER: 800-222-1222

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 - Oral | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Reproductive toxicity | Category 1B |
| Specific target organ toxicity (repeated exposure) | Category 2 |

Label elements**Emergency Overview****Danger****Hazard statements**

Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure



Appearance aqueous solution

Physical state liquid

Odor Slight

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 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: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

May be harmful in contact with skin. Harmful to aquatic life with long lasting effects.

Unknown acute toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

| Chemical Name | CAS No | Weight-% |
|------------------------------|-------------|----------|
| Other ingredients * | Proprietary | 60 - 80 |
| Glufosinate ammonium * | 77182-82-2 | 24.5 |
| 2,4-Pentanediol, 2-methyl- * | 107-41-5 | 7 - 13 |

*The exact percentage (concentration) of composition has been withheld as a trade secret. If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

| | |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice | Call a poison control center or doctor for treatment advice. Have the product containers or label with you when calling a poison control center or doctor, or going for treatment. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Call a poison control center or doctor for treatment advice. |
| Inhalation | Move victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. Administer oxygen if breathing is difficult. |
| Ingestion | Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. |
| Self-protection of the first aider | Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. |

Most important symptoms and effects, both acute and delayed

Symptoms May cause redness and tearing of the eyes. May cause skin irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible followed by charcoal and sodium sulfate administration.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. Water spray, fog or regular foam.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products Carbon oxides. Nitrogen oxides (NO_x).

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid runoff to waterways and sewers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders Use personal protection recommended in Section 8. Ventilate the area.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required. Wash thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep out of the reach of children. Keep/store only in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from food, drink and animal feeding stuffs.

Packaging materials Do not reuse container.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|
| 2,4-Pentanediol, 2-methyl- 107-41-5 | STEL: 50 ppm vapor fraction STEL: 10 mg/m ³ inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction | - | Ceiling: 25 ppm Ceiling: 125 mg/m ³ |

NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. And. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

| | |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye/face protection | Wear safety glasses with side shields (or goggles). |
| Skin and body protection | Wear suitable protective clothing. Wear protective butyl rubber gloves. Protective shoes or boots. |
| Respiratory protection | Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| General Hygiene Considerations | When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs. |

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| | | | |
|---------------------------------------|--------------------------|-------------------------|--------------------------|
| Physical state | liquid | Odor | Slight |
| Appearance | aqueous solution | Odor threshold | No information available |
| Color | Amber | | |
| Property | Values | Remarks • Method | |
| pH | 7.28 | solution (1 %) | |
| Melting point / freezing point | No information available | | |
| Boiling point / boiling range | No information available | | |
| Flash point | > 110 °C / > 230 °F | Seta Closed Cup | |
| 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 | ~17 mmHg | @ 25 °C | |
| Vapor density | No information available | | |
| Relative density | 1.14 | | |
| Water solubility | Miscible in water | | |
| Solubility in other solvents | No information available | | |
| Partition coefficient | No information available | | |
| Autoignition temperature | No information available | | |
| Decomposition temperature | No information available | | |
| Kinematic viscosity | No information available | | |
| Dynamic viscosity | No information available | | |
| Explosive properties | Not an explosive | | |
| Oxidizing properties | Not applicable | | |

Other Information

| | |
|-------------------------|--------------------------|
| Softening point | No information available |
| Molecular weight | No information available |
| VOC Content (%) | No information available |
| Density | No information available |
| Bulk density | No information available |

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

Elevated Temperature. Storage near to reactive materials.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Nitrogen oxides (NOx). Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|-------------------------------------------------------------------|
| Inhalation | Based on available data, the classification criteria are not met. |
| Eye contact | Irritating to eyes. |
| Skin contact | Irritating to skin. |
| Ingestion | Harmful if swallowed. |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|----------------------------------------|----------------------------------------------|-----------------------------------------------------|----------------------------------------------------|
| Glufosinate ammonium 77182-82-2 | = 1510 mg/kg (Rat) = 1620 mg/kg (Rat) | = 1380 mg/kg (Rat) > 4000 mg/kg (Rat) | = 1.26 mg/L (Rat) 4 h > 0.62 mg/L (Rat) 4 h |
| 2,4-Pentanediol, 2-methyl- 107-41-5 | = 3700 mg/kg (Rat) | = 12300 mg/kg (Rabbit) = 8560 µL/kg (Rabbit) | > 310 mg/m ³ (Rat) 1 h |

Information on toxicological effects

Symptoms May cause redness and tearing of the eyes. May cause skin irritation.

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

| | |
|---------------------------------|--------------------------------------------------------------------------------------|
| Sensitization | Based on available data, the classification criteria are not met. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Product is or contains a chemical which is a known or suspected reproductive hazard. |
| STOT - single exposure | Based on available data, the classification criteria are not met. |
| STOT - repeated exposure | Causes damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|------------------------|----------------|
| ATEmix (oral) | 1,083.00 mg/kg |
| ATEmix (dermal) | 2,514.00 mg/kg |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|----------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| 2,4-Pentanediol, 2-methyl- 107-41-5 | - | 10500 - 11000: 96 h Pimephales promelas mg/L LC50 flow-through 8690: 96 h Pimephales promelas mg/L LC50 flow-through 10700: 96 h Pimephales promelas mg/L LC50 static 10000: 96 h Lepomis macrochirus mg/L LC50 static | 2700 - 3700: 48 h Daphnia magna mg/L EC50 |

Persistence and degradability

Not readily biodegradable.

Bioaccumulation

Not likely to bioaccumulate.

| Chemical Name | Partition coefficient |
|----------------------------------------|-----------------------|
| 2,4-Pentanediol, 2-methyl- 107-41-5 | <0.14 |

Other adverse effects

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

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance on proper disposal of waste product.

Contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse container.

14. TRANSPORT INFORMATION

| | |
|--------------------|---------------|
| <u>DOT</u> | Not regulated |
| <u>TDG</u> | Not regulated |
| <u>IATA</u> | Not regulated |
| <u>IMDG</u> | Not regulated |

15. REGULATORY INFORMATION

International Inventories

| | |
|----------------------|----------|
| TSCA | Complies |
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| IECSC | Complies |
| KECL | Complies |
| PICCS | Complies |
| AICS | Complies |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European 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

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any 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 Hazard Categories

| | |
|------------------------------------------|-----|
| Acute health hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire hazard | No |
| Sudden release of pressure hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|----------------------------------------|-------------------|----------------------|---------------------|
| Water 7732-18-5 | - | - | X |
| 2,4-Pentanediol, 2-methyl- 107-41-5 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number 93809-14

EPA Statement

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:

Difference between SDS and EPA Pesticide label

WARNING: Causes substantial but temporary eye injury. Harmful if absorbed through skin. Harmful if swallowed. DO NOT get in eyes or on clothing. Avoid contact with skin.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

| | | | | |
|-----------------------------------|----------------------------------|----------------|--------------------|------------------------------------|
| NFPA | Health hazards 2 | Flammability 0 | Instability 0 | Physical and Chemical Properties - |
| HMIS | Health hazards 2* | Flammability 0 | Physical hazards 0 | Personal protection X |
| <i>Chronic Hazard Star Legend</i> | <i>* = Chronic Health Hazard</i> | | | |

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Revision Note
No information available

Disclaimer

The information provided in this Material 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 a 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.

End of Safety Data Sheet