



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : CLIFF
Name : Glufosinate ammonium 20 SL%
Regn # : 33974

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

1.2.1. Relevant identified uses

Main use category : Herbicide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Sharda Cropchem Ltd.
2nd Floor, Prime Business Park, Dashrathlal Joshi Road, Vile Parle (West)
400056 Mumbai - India
T + 91 22 6261 5615 - F + 91 22 6678 2828
regn@shardaintl.com

1.4. Emergency telephone number

Emergency number : 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) : Warning
Hazard statements (CLP) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
Precautionary statements (CLP) : P264 - Wash hands, forearms and face thoroughly after handling.
P102 - Keep out of reach of children.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P262 - Do not get in eyes, on skin, or on clothing.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Alcohols, C 12-14, ethoxylated, sulfates, sodium salts	(CAS-No.) 68891-38-3 (EC-No.) 500-234-8 (REACH-no) 01-2119488639-16	10-50	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412
glufosinate ammonium (ISO); ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate	(CAS-No.) 77182-82-2 (EC-No.) 278-636-5 (EC Index-No.) 015-155-00-X	18.19	Repr. 1B, H360Fd Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 STOT RE 2, H373
1-Methoxy-2-propanol substance with a Community workplace exposure limit	(CAS-No.) 107-98-2 (EC-No.) 203-539-1 (EC Index-No.) 603-064-00-3 (REACH-no) 01-2119457435-35	10-50	Flam. Liq. 3, H226 STOT SE 3, H336

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. Call a doctor.
First-aid measures after skin contact	: Remove contaminated clothes. After contact with skin, wash immediately and thoroughly with water and soap.
First-aid measures after eye contact	: Wash with plenty of water (during 20 minutes minimum) with eyes wide open after taking off soft contact lenses and immediately take medical advice.
First-aid measures after ingestion	: Rinse mouth. Immediately call a POISON CENTER/doctor.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: In case of fire and/or explosion do not breathe fumes.
Reactivity in case of fire	: Product is not explosive.
Hazardous decomposition products in case of fire	: Carbon monoxide. Nitrogen oxides. Carbon dioxide. Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Keep container tightly closed and away from heat, sparks and flame. Keep away from combustible materials.

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Firefighting instructions	: Appropriate self-contained breathing apparatus may be required. Get the package away from the fire if this can be done without risk. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Wear fire/flame resistant/retardant clothing. Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Do not allow material to contaminate surface water system.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Wear suitable protective clothing, gloves and eye or face protection. Chemical resistant gloves (according to European standard NF EN 374 or equivalent). EN 166. Wear eye protection. Personal protective equipment. EN ISO 20345.
Emergency procedures	: Evacuate personnel to a safe area.

6.1.2. For emergency responders

Protective equipment	: Wear suitable hand, body and head protection.
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6.2. Environmental precautions

Danger of pollution of drinking water when product enters the soil. Do not allow run-off from fire fighting to enter drains or water courses. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Label the container and provide warning statements to prevent any contact.
Methods for cleaning up	: Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). Clean spills promptly. Wash contaminated area with large amounts of water.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Do not allow run-off from fire fighting to enter drains or water courses. 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).
Precautions for safe handling	: Avoid contact with skin and eyes. Do not eat, drink or smoke in areas where product is used. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Remove contaminated clothing and shoes. Wash clothing and equipment after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Ensure adequate ventilation, especially in confined areas. Store locked up.
Storage conditions	: Keep only in original container. Store in a dry place. Store in a closed container. Store in a well-ventilated place. Protect from sunlight.
Storage temperature	: 0 – 30 °C
Packaging materials	: Keep only in the original container in a cool, well-ventilated place away from combustible materials.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1-Methoxy-2-propanol (107-98-2)

EU - Occupational Exposure Limits

Local name	1-Methoxypropanol-2
IOELV TWA (mg/m ³)	375 mg/m ³
IOELV TWA (ppm)	100 ppm
IOELV STEL (mg/m ³)	568 mg/m ³
IOELV STEL (ppm)	150 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC

8.2. Exposure controls

Hand protection:

Chemical resistant gloves (according to European standard NF EN 374 or equivalent)

Eye protection:

EN 166. Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles

Skin and body protection:

Long sleeved protective clothing

Respiratory protection:

Extra personal protection: P2 filter respirator for harmful particles. Extra personal protection: P3 filter respirator for toxic particles

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Blue.
Odour	: Pungent.
Odour threshold	: No data available
pH	: 5.5 – 7.5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 65 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: 400 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: 23 hPa (20°C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.1 g/cm ³ (20°C)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.

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Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Heat. High temperature. Open flame. Direct sunlight.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified.

glufosinate ammonium (ISO); ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate (77182-82-2) (data on active substance)

LD50 oral rat	1510 mg/kg bodyweight
LD50 dermal rat	< 2000 mg/kg bodyweight
LC50 Inhalation - Rat	1.26 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified.
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified.
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

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Hazardous to the aquatic environment, long-term (chronic) : Not classified

glufosinate ammonium (ISO); ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate (77182-82-2) (data on active substance)

LC50 fish 1	710 mg/l (96 h, <i>Oncorhynchus mykiss</i>)
EC50 Daphnia 1	668 mg/l (48 h, <i>Daphnia magna</i>)
ErC50 (algae)	> 80 mg/l (72 h, <i>Pseudokirchneriella subcapitata</i>)

12.2. Persistence and degradability

glufosinate ammonium (ISO); ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate (77182-82-2)

Persistence and degradability : Not readily biodegradable.

12.3. Bioaccumulative potential

glufosinate ammonium (ISO); ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate (77182-82-2)

BCF fish 1	< 1
Partition coefficient n-octanol/water (Log Pow)	-4.01 (pH 7)

12.4. Mobility in soil

glufosinate ammonium (ISO); ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate (77182-82-2)

Surface tension : 72.1 mN/m (1 g/L)

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Avoid release to the environment. Disposal must be done according to official regulations. Do not dispose of the packaging without first carrying out the necessary cleaning. Refer to manufacturer/supplier for information on recovery/recycling.

SECTION 14: Transport information






In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 2902	UN 2902	UN 2902	UN 2902	UN 2902
14.2. UN proper shipping name				
PESTICIDE, LIQUID, TOXIC, N.O.S.	PESTICIDE, LIQUID, TOXIC, N.O.S.	PESTICIDE, LIQUID, TOXIC, N.O.S.	PESTICIDE, LIQUID, TOXIC, N.O.S.	PESTICIDE, LIQUID, TOXIC, N.O.S.

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Transport document description				
UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S., 6.1, III, (E)	UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S., 6.1, III	UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S., 6.1, III	UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S., 6.1, III	UN 2902 PESTICIDE, LIQUID, TOXIC, N.O.S., 6.1, III
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

Overland transport

TDG Hazard class	: 6.1
ID number	: UN2902
Hazard label	: 6.1
Packing group	: III
Proper shipping name	: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains GLUFOSINATE AMMONIUM)
Classification code (ADR)	: M6
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	: 

Tunnel restriction code (ADR) : -

Transport by sea

Special provisions (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP2, TP29

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EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A

Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y964
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 964
PCA max net quantity (IATA) : 450L
CAO packing instructions (IATA) : 964
CAO max net quantity (IATA) : 450L
Special provisions (IATA) : A97, A158, A197
ERG code (IATA) : 9L

Inland waterway transport

Classification code (ADN) : M6
Special provisions (ADN) : 274, 335, 375, 601
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Equipment required (ADN) : PP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : M6
Special provisions (RID) : 274, 335, 375, 601
Limited quantities (RID) : 5L
Excepted quantities (RID) : E1
Packing instructions (RID) : P001, IBC03, LP01, R001
Special packing provisions (RID) : PP1
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T4
Portable tank and bulk container special provisions (RID) : TP1, TP29
Tank codes for RID tanks (RID) : LGBV
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31
Colis express (express parcels) (RID) : CE8
Hazard identification number (RID) : 90

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Substances subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals: Glufosinate, including glufosinate-ammonium (77182-82-2)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Other information, restriction and prohibition regulations : according to Regulation (EU) 2015/830.

15.1.2. National regulations

Refer to protective measures listed in Sections 7 and 8

15.2. Chemical safety assessment

Refer to protective measures listed in Sections 7 and 8

SECTION 16: Other information

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

Skin Irrit. 2	H315
Eye Irrit. 2	H319

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
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.
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.

Other data

Date of issue:	04/01/2021
Version:	0.0/CA (EN)
Replaces:	-
Indication of changes:	-

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.