



SAFETY DATA SHEET

GLYPHOGAN® PLUS

Version 1

Revision Date: 08.01.2020

Publish Date: 08.01.2020

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

1.1 Product identifier

Product name : GLYPHOGAN® PLUS

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

Use : Herbicide

1.3 Details of the supplier of the safety data sheet

Company : ADAMA South Africa (Pty) Ltd
Ground Floor, Simeka House,
The Vineyard Office Estate
99 Jip de Jager Drive
Bellville 7530

Telephone : +27 (0) 21 982 1460

E-mail address : sds@adama.com

1.4 Emergency telephone number

Emergency telephone number : +27 (0) 82 446 8946
+27 (0) 861 555 777
+27 (0) 982 1460

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

Hazard class / Hazard category	Hazard statements
Hazardous to the aquatic environment, Chronic category 2	H411

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

European classification	R-Phrases
Dangerous for the environment	R51/53

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008



GHS09
Environment

Signal word: -



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H statements

H411 Toxic to aquatic life with long lasting effects.

P statements

P273 Avoid release to the environment.

P501 Dispose of contents/container to an authorized waste burning site.

Hazardous components which must be listed on the label:

Labelling: EU Directives 67/548/EEC or 1999/45/EC

R-phrases(s) : R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s) : S 60 This material and its container must be disposed of as hazardous waste.

S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

2.3 Other hazards

No further information

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture.

3.2 Mixtures

Component	CAS No	EINECS No	Classification (1272/2008/EC)	Classification (67/548/EEC)	Content
Glyphosate*	40465-66-5	-	Aqu.Chronic 2; H411	N, R51/53	~75,7%

* N-Phosphonomethylglycine

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice : Have the product container, label or Material Safety Data Sheet with you when calling the ADAMA emergency number, a poison control center or physician, or going for treatment.

Inhalation : Bring affected victim outside away from exposure and provide for fresh air.
Call for medical advice if there's pain in breathing.



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- Skin contact** : Immediately take off contaminated clothing. Wash affected skin with water and soap.
If irritation persists, seek medical advice.
- Eye contact** : Immediately rinse eyes with plenty of water for 15 minutes ensuring eyelids are held open
Obtain medical advice.
- Ingestion** : Immediately drinking of plenty of water.
Do NOT induce vomiting.
Immediately obtain medical advice.
Never give anything by mouth or induce vomiting to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms of acute exposure to high doses include nausea, vomiting, diarrhoea, muscle weakness and salivation.

Signs for eye or skin irritation: burning sensation, redness, swelling.

Ingestion of similar formations has been reported to produce gastrointestinal discomfort with irritation of the mouth, nausea, vomiting and diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed

- Medical advice** : There is no specific antidote available. All treatment should be based on observed signs and symptoms of distress in the patient. Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Water (Spray – not splash), extinguishing powder, carbon dioxide, foam.

Unsuitable extinguishing media

No restrictions.

5.2 Special hazards arising from the substance or mixture

Forming of dangerous gases / vapours at decomposition:

- Carbon dioxide, carbon monoxide, oxides of nitrogen, ammonia, oxides of phosphor

Forming of dangerous gases / vapours in case of a fire in the surroundings possible too.

5.3 Advice for firefighters

Use self-contained breathing apparatus when tight next to the fire or in closed rooms.

Clean equipment after use (Shower, clean and check clothing carefully).

Further precautions

Keep use of water under control according to possible environmental endangering (s. section 6).



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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Pay attention to protective measurements according to section 8.
Avoid contact with skin, eyes and clothing.
Provide for good ventilation.
Keep unprotected people away.

6.2 Environmental precautions

Inform the appropriate authorities if considerable quantities of the product are released.
Prevent escape into water, drainage, sewer or the ground.

6.3 Methods and materials for containment and cleaning up

Take up mechanically or with inert material (sand, earth, absorbing material).
Collect in a closed, labelled and product-resistant container.

6.4 Reference to other sections

Concerning disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from reactive material (see section 10).
Avoid contact with skin, eyes and clothing.
Do not eat, drink or smoke at work.
Wash hands before breaks and after work.
Thoroughly clean equipment after use.
Provide for good ventilation.

7.2 Conditions for safe storage, including any incompatibilities

Store in closed original packaging.
Keep container at a dry and well ventilated place.
Keep away from food, drink and animal feeding stuffs.

7.3 Specific end use(s)

Ask supplier before special use.

Further precautions

Inform personnel about dangerous product.
Empty containers retain vapour and product residue.
Do not contaminate drains, sewers and waterways when depositing of equipment rinse water.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits:

At the present there are no information regarding exposure limit values.



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8.2 Exposure controls

Pay attention to measurements according section 7.
Install local ventilation when danger of decomposition.

Personal protective equipment

- Respiratory protection** : At recommended use no special equipment is necessary.
When released or in case of intensive or longer exposure use self-contained breathing apparatus.
Use only equipment according to international/national regulations.
- Hand protection** : Chemical resistant gloves (EN 374)
Recommended material: nitrile rubber, chloroprene rubber, PVC
- Eye protection** : Glasses with side protection.
- Skin protection** : Protective work clothing.
Wear long-sleeve shirts and long pants.
- Hygiene measures** : Shower and eye shower.
Do not eat, drink or smoke at work.
Wash hands before breaks and after work.
Take off contaminated clothing.
Wearing of closed clothing is recommended.
Separate preserving of working clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	granules
Colour:	white
Odour:	without
pH:	4 – 6 (20°C)
Melting point/range:	230°C
Boiling point/range:	n.a.
Flash point:	n.a.
Auto-ignition temperature:	n.a.
Explosive properties:	Lower Explosive Limit: n.a Upper Explosive Limit: n.a
Vapour pressure:	n.a.
Density:	0,5 g/cm ³ (20°C)
Solubility:	Water (20°C) soluble
Partition coefficient: (n-octanol/water)	n.d.
Viscosity:	n.a



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9.2. Other information

Decomposition temperature: n.d.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No special information.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

This product can react with caustic (basic materials to liberate heat). This is not a polymerization but rather a chemical neutralization in an acid base reaction.

Do not mix, store or apply this product or spray solutions of this product in galvanized steel or unlined mild steel containers or spray tanks. Forming of hydrogen, which may form a highly combustible gas air mixture.

With alkalines forming of ammonia is possible

10.4 Conditions to avoid

Avoid sources of ignition and extreme heat.

10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong bases.
Galvanized steel, mild steel.

10.6 Hazardous decomposition products

oxides of nitrogen, ammonia, oxides of phosphorous.
carbon dioxide, carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity : LD 50 > 4640 mg/kg, rat

Acute dermal toxicity : LD 50 > 2150 mg/kg, rat

Inhalation toxicity : LC 50 n.d, rat

Skin corrosion/irritation : 4 days slight to moderate irritation to eye. This was evident at 1 day but cleared by 4 days.
No irritation to skin (rabbits, 4 hours essentially).

Sensitization : Not a sensitizer (guinea pig, skin).



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Repeated dose toxicity

Glyphosate

- : repeated dermal exposure, rabbit, 21 days
NOAEL toxicity > 5000 mg/kg/day
- : rat, oral, 3 months, NOAEL toxicity > 20000 mg/kg diet
Data from Glyphosate laboratory toxicity studies were conducted with a formulation comprised of 62% isopropylamine salt of Glyphosate (MON 0139).
Rabbits – 3 week dermal: Repeated daily primarily resulted in slight skin irritation.
Dogs – 6 month feeding: Only slight body weight changes noted.
Rats – 90 days feeding: No treatment related effects.
Mice – 90 days feeding: Decreased weight gains at the high dose level group animals.

Carcinogenicity

Glyphosate

- : mouse, oral, 24 months, NOEL tumor > 30000 mg/kg diet
NOAEL toxicity ~ 5000 mg/kg diet
Target organ: liver
Increase of body weight, histopathological effects
- : rat, oral, 24 months, NOEL tumor > 20000 mg/kg diet
NOAEL ~ 8000 mg/kg diet
Target organ: eyes
Increase of body weight, histopathological effects.
- : None of the components present in this material at concentrations equal to or greater than 0,1% is listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Mutagenicity

Glyphosate

- : In vitro and in vivo mutagenicity test: not mutagenic

Reproductive toxicity

Glyphosate

- : rat, oral, 3 generations, NOAEL toxicity > 30 mg/kg
NOAEL reproduction > 30 mg/kg

Teratogenicity

Glyphosate

- : rat, oral, 6-19 days pregnancy, NOAEL toxicity 1000 mg/kg body weight
NOAEL development 1000 mg/kg body weight
Increase of body weight, decrease surviving range, lost of weight, postimplantation, delayed forming of bones at descendants only occurred in case of maternal poisoning
- : rabbit, oral, 6-27 days pregnancy, NOAEL toxicity 175 mg/kg body weight
NOAEL development 175 mg/kg body weight
Decrease in surviving range



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SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Fishes	:	Rainbow trout, LC 50, 96 hours, static	22 mg/l
		Rainbow trout, LC 50, 96 hours, dynamic	8,2 mg/l
		Bluegill sunfish, LC 50, 96 hours, dynamic	5,8 mg/l
		Fathead minnow, LC 50, 96 hours	9,4 mg/l
		Channel catfish, LC 50, 96 hours	16 mg/l
		Chinook salmon, LC 50, 96 hours	20 mg/l
		Coho salmon, LC 50, 96 hours	22 mg/l
Crustaceans	:	Daphnia magna, LC 50, 48 hours, aeration	37 mg/l
		Daphnia magna, LC 50, 48 hours, w/o aeration	24 mg/l
		Gammarus pseudolimnaeus, EC 50, 48 hours	42 mg/l
Algae	:	Algae S. Capricornutum, EC 50, 72 hours	2,1 mg/l
Birds	:	Bobwhite quail, LC 50, 8 days	> 6300 ppm
		Mallard duck, LC 50, 8 days	> 6300 ppm

12.2 Persistence and degradability

Glyphosate

- : Soil field, half life 2-174 days
- Koc 884-60000 l/kg, adsorbs strongly to soil
- Water, aerobic, half life < 7 days

12.3 Bio-accumulative potential

Glyphosate

- : Lepomis macrochirus hole fish BCF < 1 (no significant bioaccumulation is occurred)

12.4 Mobility in soil

- : No detailed data available.

12.5 Results of PBT and vPvB assessment

- : No specific data available.

12.6 Other adverse effects

- : Toxic to aquatic organisms.
Prevent escape into water, drainage, sewer or the ground.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- | | | |
|---------------------------|---|--|
| Product disposal | : | Obey the local and national regulations for recycling.
Contaminated adsorbents, surplus product, etc., should be burnt in an incinerator, preferably designed for pesticide disposal. |
| Container disposal | : | Dispose at an authorized waste site for dangerous goods waste. |



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SECTION 14. TRANSPORT INFORMATION

	Road transport ADR	Railway transport RID	Inland waterway ADN	Maritime transport IMDG	Air transport IATA
14.1. UN No	UN 3077				
14.2. Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (ammonium salt of glyphosate)				
14.3. Class	9				
14.4. Packing Group	III				
14.5. Environmental hazards	Fish & tree				
14.6. Special pre- caution for user	No further information				
14.7. Transport in bulk acc. to MARPOL 73/78 und IBC Code	No further information				

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture (1272/2008/EC)

National regulations

- Water hazard class WGK: 2 (Germany)

15.2. Chemical safety assessment

- No further information.

SECTION 16. OTHER INFORMATION

Latest Update

Complete revision

Used abbreviations

n.a. not applicable
n.d. no data

Literature references and sources of information

EC Directive 67/548/EEC resp. 1999/45/EC in valid version; regulation (EC) No 1907/2006 (REACH) in valid version; National exposure limit values in valid version; Transport regulations according to ADR, RID, ADN, IMDG, IATA in valid version; information from supplier.



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List of relevant hazard statements from section 2 and 3 (GHS classification)

H411 Toxic to aquatic life with long lasting effects.

List of relevant R-phrases from section 2 and 3 (EU-classification)

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

These details are based on our current knowledge. They should describe our products regarding safety requirements and therefore should not assure certain properties.