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Product name	GLEAN 75 XP	May 2020
Safety data sheet according to EU Reg. 1907/2006 as amended		Supersedes May 2018

SAFETY DATA SHEET

GLEAN 75 XP

Revision: Sections containing a revision or new information are marked with a ♣.

♣ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING


- 1.1. **Product identifier** **GLEAN 75 XP**
- 1.2. **Relevant identified uses of the substance or mixture and uses advised against** Can be used as herbicide only.
- 1.3. **Details of the supplier of the safety data sheet** **FMC Agricultural Solutions A/S**
 Thyborønvej 78
 DK-7673 Harbøre
 Denmark
SDS.Ronland@fmc.com
- 1.4. **Medical emergencies:**
- | | |
|-------------------------------------|---|
| Austria: +43 1 406 43 43 | Luxembourg: +352 8002 5500 |
| Belgium: +32 70 245 245 | Netherlands: +31 30 274 88 88 |
| Bulgaria: +359 2 9154 409 | Norway: +47 22 591300 |
| Cyprus: 1401 | Poland: +48 22 619 66 54 |
| Czech Republic: +420 224 919 293 | +48 22 619 08 97 |
| +420 224 915 402 | Portugal: 800 250 250 (in Portugal only) |
| Denmark: +45 82 12 12 12 | +351 21 330 3284 |
| England and Wales: 111 | Romania: +40 21318 3606 |
| Estonia: +372 7943500 | Scotland: +8454 24 24 24 |
| Finland: +358 9 471 977 | Slovakia: +421 2 54 77 4 166 |
| France: +33 (0) 1 45 42 59 59 | Slovenia: +386 41 650 500 |
| Greece: 30 210 77 93 777 | South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.) |
| Hungary: +36 80 20 11 99 | Spain: +34 91 562 04 20 |
| Ireland (Republic): +353 1 837 9964 | Sweden: +46 08-331231 |
| Italy: +39 02 6610 1029 | 112 |
| Latvia: +371 670 42 473 | Switzerland: 145 |
| 112 | Turkey: 114 |
| Lithuania: +370 523 62052 | U.S.A. & Canada: +1 800 / 331 3148 |
| +370 687 53378 | All other countries: +1 651 / 632 6793 (Collect) |

For fire, leak, spill or other accident emergencies:

U.S.A.: +1 800 / 424 9300 (CHEMTREC)
 All other countries: +1 703 / 527 3887 (CHEMTREC - Collect)

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SECTION 2: HAZARDS IDENTIFICATION

- 2.1. Classification of the substance or mixture**
- Hazards to the aquatic environment, acute: Category 1 (H400)
 chronic: Category 1 (H410)
- WHO classification Class U (unlikely to present acute hazard in normal use).
- Health hazards The product is not expected to cause severe adverse effects to health, but adverse health effects cannot be excluded in case of massive exposure.
- Environmental hazards The product is expected to be toxic to most plants.
- 2.2. Label elements**
According to EU Reg. 1272/2008 as amended
- Product identifier Glean 75 XP
- Hazard pictogram (GHS09)
- 
- Signal word Warning
- Hazard statement
 H410 Very toxic to aquatic life with long lasting effects.
- Supplementary hazard statement
 EUH401 To avoid risks to human health and the environment, comply with the instructions of use.
- Precautionary statements
- P273 Avoid release to the environment.
- P391 Collect spillage.
- P501 Dispose of contents and container as hazardous waste.
- 2.3. Other hazards** Excessive dust formation may pose a dust explosion hazard.
- None of the ingredients in the product meets the criteria for being PBT or vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1. Substances** The product is a mixture, not a substance.
- 3.2. Mixtures** See section 16 for full text of hazard statements.
- Active ingredient*
- Chlorsulfuron** Content: 75% by weight
- CAS name Benzenesulfonamide, 2-chloro-N-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]-

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CAS no. 64902-72-3
 IUPAC name 1-(2-Chlorophenylsulfonyl)-3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)urea
 ISO name/EU name Chlorsulfuron
 EC no. (EINECS no.) 265-268-5
 EU index no. 613-121-00-4
 Molecular weight 357.77
 Classification of the ingredient Hazards to the aquatic environment, acute: Category 1 (H400)
 chronic: Category 1 (H410)

<u>Reportable ingredient</u>	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
Lignosulfonic acid, sodium salt, sulfomethylated	5 - 10	68512-34-5	None	Eye Irrit. 2 (H319)

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

Skin contact Immediately remove contaminated clothing and footwear. Flush skin with water. Wash with water and soap. See physician if any symptom develops.

Eye contact Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See physician if irritation develops.

Ingestion Inducing vomiting is not recommended. Rinse mouth and drink water or milk. If vomiting does occur, rinse mouth and drink fluids again. Call a doctor or get medical attention immediately.

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

None known. Generally, sulphonylurea herbicides cause lethargy, confusion, dizziness and seizures on ingestion of large quantities.

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

Immediate medical attention is required in case of ingestion
 It may be helpful to show this safety data sheet to physician.

Note to physician A specific antidote against this substance is not known. Gastric lavage and/or administration of activated charcoal can be considered. After decontamination, treatment is supportive and symptomatic.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media Dry chemical or carbon dioxide for small fires, water spray or foam

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for large fires. Avoid heavy hose streams.

5.2. Special hazards arising from the substance or mixture

The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as hydrogen chloride, nitrogen oxides, sulphur dioxide, carbon monoxide, carbon dioxide and various chlorinated organic compounds.

5.3. Advice for firefighters

Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):

1. use personal protection equipment; see section 8
2. call emergency telephone no.; see section 1
3. alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots.

Stop the source of the spill immediately if safe to do so. Reduce and avoid formation of airborne dust as much as possible, if appropriate by moistening.

6.2. Environmental precautions

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and materials for containment and cleaning up

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).

Surface water drains should be covered if appropriate. Minor spills on the floor or other impervious surface should immediately be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with strong industrial detergent and much water. Absorb wash liquid onto inert absorbent such as universal binder, Fuller's earth, bentonite or other absorbent clay and collect in suitable containers. The used containers should be properly closed and labelled.

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Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

- 6.4. **Reference to other sections** See subsection 8.2. for personal protection.
 See section 13 for disposal.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Like most organic powders, the product can form explosive mixtures with air. Avoid dust formation and take precautionary measures against static discharge. Use explosion protected equipment. Keep away from sources of ignition and protect from exposure to fire and heat.

In an industrial environment, it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Avoid contact with eyes, skin or clothing. Avoid breathing dust or spray mist.

Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.

Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

7.2. Conditions for safe storage, including any incompatibilities

The product is stable under normal conditions of warehouse storage.

Keep in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or

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children. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

- 7.3. **Specific end use(s)** The product is a registered pesticide which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

♣ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Personal exposure limits To our knowledge not established for the active substance or any other ingredient in this product. An exposure limit of 10 mg/m³ (8-hr TWA) is recommended for other sulphonylureas. However, personal exposure limits defined by local regulations may exist and must be observed.

Chlorsulfuron

DNEL Not established
 The EFSA has established an AOEL of 0.43 mg/kg bw/day
 PNEC, aquatic environment 0.004 µg/l

8.2. Exposure controls

When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non-hazardous before opening.

The precautions mentioned below are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

In cases of incidental high exposure, maximal personal protection equipment may be necessary, such as respirator, face mask, chemical resistant coveralls.



Respiratory protection

The product does not automatically present an airborne exposure concern when handled carefully, but in the event of an accidental discharge of the material which produces a heavy vapour or dust, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.



Protective gloves

Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection. It is recommended to limit the work to be done manually.



Eye protection

Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.

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Other skin protection

Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on physical and chemical properties

Appearance	Light brown solid (granules)
Odour	Slight, acrid
Odour threshold	Not determined
pH	10 g/l dispersion in water: 6.3 at 25°C
Melting point	Not determined
Initial boiling point and boiling range	Decomposes
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid/gas)	Not highly flammable
Upper/lower flammability or explosive limits	Not determined
Vapour pressure	Chlorsulfuron : 6.1 x 10 ⁻⁴ Pa at 25°C
Vapour density	Not determined
Relative density	Not determined
Solubility(ies)	Bulk density: 0.672 g/cm ³ Solubility of chlorsulfuron at 20°C in
	acetone 37 g/l
	n-hexane 0.0024 g/l
	water 0.876 g/l at pH 5
	12.5 g/l at pH 7
	134 g/l at pH 9
Partition coefficient n-octanol/water	Chlorsulfuron : log K _{ow} = -0.99 at pH 7
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	Not determined
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2. Other information

Miscibility	The product can be dispersed in water.
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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity	To our knowledge, the product has no special reactivities.
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- 10.2. **Chemical stability** The product is stable during normal handling and storage at ambient temperatures.
- 10.3. **Possibility of hazardous reactions** None known.
- 10.4. **Conditions to avoid** Heating of the product may evolve harmful and irritant vapours.
- 10.5. **Incompatible materials** None known.
- 10.6. **Hazardous decomposition products** See subsection 5.2.

SECTION 11: TOXICOLOGICAL INFORMATION

- 11.1. **Information on toxicological effects** * = Based on available data, the classification criteria are not met.

Product

- Acute toxicity The product is not harmful by inhalation, in contact with skin or if swallowed. * However, it should always be treated with the usual care of handling chemicals. The acute toxicity is measured as:
- Route(s) of entry - ingestion LD₅₀, oral, rat: > 2000 mg/kg (method OECD 425)
- skin LD₅₀, dermal, rabbit: > 5000 mg/kg (method OECD 402)
- inhalation LC₅₀, inhalation, rat: not available
- Skin corrosion/irritation Not irritating to skin (method OECD 404). *
- Serious eye damage/irritation Not irritating to eyes (method OECD 405). *
- Respiratory or skin sensitisation ... Not a skin sensitizer (method OECD 406). *
- Germ cell mutagenicity The product contains no ingredients known to be mutagenic. *
- Carcinogenicity The product contains no ingredients known to be carcinogenic. *
- Reproductive toxicity The product contains no ingredients found to have adverse effects on reproduction. *
- STOT – single exposure To our knowledge, no specific effects have been observed after single exposure. *
- STOT – repeated exposure The following has been measured on the active ingredient chlorsulfuron:
 Target organ: no specific target organ
 NOAEL: 161 - 217 mg/kg bw/day in a 90-day rat study (method EU B.26). *
- Aspiration hazard The product contains no ingredients known to present an aspiration pneumonia hazard. *

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Symptoms and effects, acute and delayed

To our knowledge, adverse effects in humans have not been reported. The product is not expected to cause severe adverse effects to health, but adverse health effects cannot be excluded in case of massive exposure. Generally, sulphonylurea herbicides cause lethargy, confusion, dizziness and seizures on ingestion.

Chlorsulfuron

Toxicokinetics, metabolism and distribution

Chlorsulfuron is rapidly absorbed and excreted following oral administration. It is widely distributed in tissue. It is excreted mostly unchanged. There is no evidence for accumulation.

Acute toxicity

The substance is not harmful by inhalation, in contact with skin or if swallowed. * The acute toxicity is measured as:

Route(s) of entry - ingestion

LD₅₀, oral, rat (male): 5545 mg/kg (method EU B.1)

LD₅₀, oral, rat (female): 6293 mg/kg

- skin

LD₅₀, dermal, rat: > 3400 mg/kg (method EU B.3)

- inhalation

LC₅₀, inhalation, rat: > 5.2 mg/l/4 h (method OECD 403)

Skin corrosion/irritation

The substance is not irritating to skin (method EU B.4). *

Serious eye damage/irritation

The substance may be slightly irritating to eyes (method EU B.5). *

Respiratory or skin sensitisation ...

The substance was not sensitising to guinea pigs (method EU B.6). *

Lignosulfonic acid, sodium salt, sulfomethylated

Acute toxicity

The substance is not considered as harmful by single exposure. *

Route(s) of entry - ingestion

LD₅₀, oral, rat: not available

- skin

LD₅₀, dermal, rat: not available

- inhalation

LC₅₀, inhalation, rat: not available

Serious eye damage/irritation

Causes serious eye irritation.

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity**

The product is very toxic to algae and aquatic plants. It is considered as non-toxic to fish, aquatic invertebrates, soil micro- and macroorganisms, birds, mammals and insects.

The ecotoxicity of **chlorsulfuron** is measured to be:

- Fish	Rainbow trout (<i>Oncorhynchus mykiss</i>)	96-h LC ₅₀ : > 250 mg/l NOEC: 32 mg/l
- Invertebrates	Daphnids (<i>Daphnia magna</i>)	48-h EC ₅₀ : > 370 mg/l NOEC: 20 mg/l
- Algae	Green algae (<i>Pseudokirchneriella subcapitata</i>) ...	EC ₅₀ : 0.055 µg/l

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	Cyanobacteria (<i>Anabaena flos-aquae</i>)	EC ₅₀ : 0.61 mg/l
- Plants	Duckweed (<i>Lemna minor</i>)	EC ₅₀ : 0.35 µg/l
- Birds	Mallard duck (<i>Anas platyrhynchos</i>)	Dietary LC ₅₀ : > 5000 ppm
- Insects	Bees (<i>Apis mellifera</i>)	LD ₅₀ : 25 µg/bee

- 12.2. **Persistence and degradability** **Chlorsulfuron** can be persistent in the environment. Primary degradation half-lives vary primarily with pH, from a few weeks to over one year in soil at high pH. The substance has the potential to leak to groundwater. Remains in soil may adversely influence plant reproduction.
- The product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.
- 12.3. **Bioaccumulative potential** See section 9 for n-octanol/water partition coefficients.
- Due to high solubility in water, **chlorsulfuron** does not bioaccumulate.
- 12.4. **Mobility in soil** **Chlorsulfuron** is moderately mobile in soil at low pH, but very mobile at high pH.
- 12.5. **Results of PBT and vPvB assessment** None of the ingredients meets the criteria for being PBT or vPvB.
- 12.6. **Other adverse effects** Other relevant hazardous effects in the environment are not known.

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1. **Waste treatment methods** Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.
- Disposal of waste and packagings must always be in accordance with all applicable local regulations.
- Disposal of product According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not possible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.
- Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
- Disposal of packaging It is recommended to consider possible ways of disposal in the following order:
1. Reuse or recycling should first be considered. Reuse is prohibited

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except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.

2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

3. Delivery of the packaging to a licensed service for disposal of hazardous waste.

4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

- 14.1. **UN number** 3077
- 14.2. **UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (chlorsulfuron)
- 14.3. **Transport hazard class(es)** 9
- 14.4. **Packing group** III
- 14.5. **Environmental hazards** Marine pollutant
- 14.6. **Special precautions for user** Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment.
- 14.7. **Transport in bulk according to Annex II of MARPOL and the IBC code** The product is not transported in bulk by ship.

♣ SECTION 15: REGULATORY INFORMATION

- 15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture** Seveso category (Dir. 2012/18/EU): dangerous for the environment.
 All ingredients are covered by EU chemical legislation.
- 15.2. **Chemical safety assessment** A chemical safety assessment is not required to be included for this product.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet Minor corrections only.

List of abbreviations AOEL Acceptable Operator Exposure Level
 CAS Chemical Abstracts Service
 Dir. Directive

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DNEL	Derived No Effect Level
EC	European Community
EC ₅₀	50% Effect Concentration
EFSA	European Food Safety Authority
EINECS	European INventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013
IBC	International Bulk Chemical code
ISO	International Organisation for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	50% Lethal Concentration
LD ₅₀	50% Lethal Dose
MARPOL	Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
n.o.s.	Not otherwise specified
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent, Bioaccumulative, Toxic
PNEC	Predicted No Effect Concentration
Reg.	Regulation
STOT	Specific Target Organ Toxicity
TWA	Time Weighted Average
vPvB	very Persistent, very Bioaccumulative
WHO	World Health Organisation

References Data measured on the product are unpublished company data. Data on ingredients are available from published literature and can be found several places.

Method for classification Calculation rules

Used hazard statements
 H319 Causes serious eye irritation.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 EUH401 To avoid risks to human health and the environment, comply with the instructions of use.

Advice on training This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Agricultural Solutions A/S / GHB