



Safety Data Sheet

According to Regulation (EC) No 453/2010 (REACH)

Trade name: Resolva Pro Xtra Tough RTU

Version:1.0

Revision date: 28.01.20

Print date: 28.01.20

2.3 Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances N/A

3.2 Mixtures

Description Herbicide, Finished spray formulation

Hazardous ingredients

Chemical Name	CAS-No. EC-No. Registration number	Concentration %W/W	Regulation (EC) No 1272/2008 (CLP)
D-Glucopyranose, oligomeric, decyl octyl glycosides	CAS: 68515-73-1 EC:500-220-1 01-2119488530-36- 0000	1 – 5 %	Eye Dam. 1; H318
Poly(oxy-1,2- ethanediyl), alpha- isotridecyl-o-mega- hydroxy-	CAS: 9043-30-5 EC:9043-30-5	1 – 5 %	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 3; H412
Propane-1,2-diol	CAS: 57-55-6 EC:200-338-0	1 – 5 %	
Glyphosate- diammonium	CAS: 69254-40-6	0.99 %	Aquatic Chronic 2; H411

See Section 16 for the full text of the H statements declared above



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4. FIRST AID MEASURES

4.1 Description of first aid measures

General Information: Have the product container, label or Material Safety Data Sheet with you when calling a poison control center or physician, or going for treatment.
Remove contaminated clothing immediately and dispose of safely.

Inhalation: Move person to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.

Skin Contact: Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.

Ingestion: If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: None

Effects: None known

4.3 Indication of any immediate medical attention and special treatment needed

Information for doctor: Treat symptomatically.

5. FIRE FIGHTING MEASURES



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5.1 Extinguishing Media:

Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide (CO₂).

Large fires: Use alcohol-resistant foam or water spray.

Unsuitable Extinguishing Media:

Do not use a solid water stream as it may scatter and spread fire.

5.2 Specific Hazards Arising From the Substance or Mixture:

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion

Exposure to decomposition products may be a hazard to health.

5.3 Advice for Fire Fighters:

Wear a positive-pressure supplied-air respirator with full face-piece. Complete suit protecting against chemicals.

Additional Information:

Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

For non-emergency personnel

Avoid contact with skin and eyes

For emergency responders

Personal precautions: safety glasses, protective gloves

6.2 Environmental Precautions:

Prevent further leakage or spillage if safe to do so.

Do not flush into surface water or sanitary sewer system.

6.3 Methods and Materials for Containment and Cleaning Up:

Contain spillage, and then collect with non-combustible absorbent material (e.g. sand, earth, vermiculite) and place in container for disposal according to local / national

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regulations. If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Additional Advice: Check also for any local site procedures.

See Section 1 for emergency contact information.

See Section 7 for safe handling information.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Protective measures:

- Avoid contact with eyes and skin.
- Do not eat, drink or smoke when using this product.
- Take off contaminated clothing and wash before re-use.
- Wash hands forearms and face and observe good hygiene practice after handling this product.
- Take notice of the directions of use on the label.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

- Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (See Section 10).
- Keep container tightly closed and sealed until ready for use.
- Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
- Keep away from food, drink and animal foodstuffs.
- Keep out of the reach of children.

7.3 Specific End Uses:

Use as herbicide according to the instruction on the label.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Ingredients with limit values that require monitoring at the workplace:

8.1.1 Occupational Exposure Limits

Components	Type of exposure limit	Exposure limit(s)	Source
Glyphosate	8 h TWA	10 mg/m ³	SYNGENTA
Propane-1,2-diol	8h TWA	10mg/m ³ (Particulates)	UK HSE
	8h TWA	150 ppm, 470 mg/m ³ (Total(vapour & particulates))	UK HSE

8.1.2 Biological limit values: see above

8.1.3 Exposure limits at intended use: see above

8.1.4 DNEL/PNEC-values: N/A

8.1.5 Risk management measures according to used control banding approach: N/A

8.2 Exposure Controls

8.2.1 Appropriate engineering Controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
If airborne mists or vapors are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.
Where necessary, seek additional occupational hygiene advice.

8.2.2 Protective Measures: The use of technical measures should always have priority over the use of personal protective equipment.
A risk assessment based on the task being performed and the risks involved should be carried out to determine personal protection equipment required to avoid mists, gases or dusts.
When selecting personal protective equipment, seek appropriate professional advice.



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Eye Protection: Eye protection is not usually required.
Follow any site specific eye protection policies.

Personal protective equipment should be certified to appropriate standards.

Skin and Body Protection: No special protective equipment required.
Select skin and body protection based on the physical job requirements

Hand Protection: Chemical resistant gloves are not usually required.
Select gloves based on the physical job requirements.

Respiratory Protection: No personal respiratory protective equipment normally required.
A particulate filter respirator may be necessary until effective technical measures are installed.

8.2.3 Environmental exposure controls:
Do not flush into surface water or sanitary sewer system.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Light yellow liquid

Physical state: Liquid

Colour: Light yellow

Odour: Characteristics

Odour threshold: N/A

9.2 Other information:

	Value	Concentration	Method	Temperature	Pressure	Remark
pH	6.8	100% w/v	No data	20°C	No data	No data
Melting point/freezing point	No data	No data	No data	No data	No data	No data
Initial boiling point/boiling range	No data	No data	No data	No data	No data	No data
Flash point	No data	No data	No data	No data	No data	No data
Evaporation rate	No data	No data	No data	No data	No data	No data



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Flammability (solid, gas)	No data	No data	No data	No data	No data	No data
Upper/lower flammability or explosive limits	No data	No data	No data	No data	No data	No data
Upper explosive limits	No data	No data	No data	No data	No data	No data
Lower explosive limits	No data	No data	No data	No data	No data	No data
Vapour pressure	No data	No data	No data	No data	No data	No data
Vapour density	No data	No data	No data	No data	No data	No data
Relative density	No data	No data	No data	No data	No data	No data
Solubility(ies)	No data	No data	No data	No data	No data	No data
Partition coefficient: n-octanol/water	No data	No data	No data	No data	No data	No data
Auto-ignition temperature	No data	No data	No data	No data	No data	No data
Decomposition temperature	No data	No data	No data	No data	No data	No data
Viscosity	No data	No data	No data	No data	No data	No data
Viscosity, dynamic	1.012g/cm ³	No data	No data	No data	No data	No data
Viscosity, cinematic	No data	No data	No data	No data	No data	No data
Explosive properties	No data	No data	No data	No data	No data	No data
Oxidising properties	No data	No data	No data	No data	No data	No data

Physical hazards: none known

10. STABILITY AND REACTIVITY

10.1 Reactivity: No hazardous reactions if stored and handled as prescribed / indicated.

10.2 Chemical Stability: Stable under normal conditions of storage, handling and use. Combustion or thermal decomposition will evolve toxic and irritant vapours.

10.3 Hazardous Reactions: No hazardous reactions if stored and handled as prescribed / indicated.

10.4 Conditions to Avoid: None known.

10.5 Incompatible Materials: No substances known that should be avoided

10.6 Hazardous Decomposition: No decomposition products expected under normal conditions of use

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution



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11.1 Information on toxicological effects

11.1.1 Substances N/A

11.1.2 Mixtures

Acute toxicity

Practical experience / human evidence: None

Animal data: LD50 (female rat) ca. > 5000 mg/kg

The product was not tested. The statements was derived from products of similar structure and composition.

Other information: None

Assessment / Classification: Based on available data, no classification is given

Skin corrosion/irritation

Practical experience / human evidence: None

Acid-/Alkali reserve (buffer capacity for mixtures with extreme pH values)

Acidic reserve [g NaOH/100 g product]: No data

Alkaline reserve [g H₂SO₄/100 g product]: No data

Animal data:

	Species	Method	Exposure time	Result /Evaluation	Remark
Mixture	Male and female rat	LC50 Dermal		> 5000 mg/l	Information given is based on data obtained from similar substances



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In-vitro skin test: No data

Other information: Rabbit: mildly irritating

Assessment / Classification: Based on available data no classification required.

Eye damage/irritation

Practical experience / human evidence: None

Animal data: Rabbit: Moderately irritating

Information given is based on calculated data obtained from similar substances

In vitro eye test: No data

Other information: None

Assessment / Classification: Based on available data, the classification criteria are not met.

Sensitisation to the respiratory tract/skin : Does not cause skin sensitization according to animal tests

Sensitisation to the respiratory tract: Does not cause skin sensitization according to animal tests

Practical experience / human evidence: None

Other information:

Assessment / Classification: Based on available data, the classification criteria are not met.

Skin sensitisation

Practical experience / human evidence: None

Animal data: Does not cause skin sensitization according to animal tests

Other information: None

Assessment / Classification: Based on available data, the classification criteria are not met.

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CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

Reproductive toxicity

Practical experience / human evidence: None

Animal data : Contains no ingredient listed as mutagenic effects or toxic to reproduction

Other information: None

Assessment / Classification: Based on available data, the classification criteria are not met.

Overall assessment on CMR properties: The mixture is not classified as specific target organ toxicant, single exposure or repeated exposure

Aspiration hazard

Practical experience / human evidence: No data available.

Experimental data: viscosity data: see SECTION 9.

Assessment / Classification: Based on available data, the classification criteria are not met.

Symptoms related to the physical, chemical and toxicological characteristics:

In case of ingestion: See Section 4 of this data sheet

In case of skin contact: See Section 4 of this data sheet

In case of inhalation: See Section 4 of this data sheet

In case of eye contact: See Section 4 of this data sheet

Further Information: No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity: LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l
(Exposure time: 96 h)

Chronic (long-term) fish toxicity: No data

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Acute (short-term) toxicity to crustacea: No data

Chronic (long-term) toxicity to crustacea: No data

Acute (short-term) toxicity to algae and cyanobacteria:

Toxicity to other aquatic plants / organisms: EC50 (Water flea (Daphnia magna)) > 100 mg/l

Exposure time: 48 h

Toxicity to microorganisms: None known

Sediment toxicity: None known

Terrestrial toxicity: None known

Toxicity to soil macro-organisms except arthropods: None known

Toxicity to terrestrial arthropods: None known

Toxicity to terrestrial plants: None known

Toxicity to birds: None known

Assessment / Classification: Harmful to aquatic organisms.

12.2 Persistence and degradability

Biodegradation: • Readily biodegradable. Glyphosate-diammonium, degradation half life:302 d, persistent in water, Glyphosate-diammonium, degradation half life: 1.4 – 19 d. Not persistent in soil.

Assessment / Classification: Readily biodegradable (according to OECD criteria).

12.3 Bioaccumulative potential

Bioconcentration factor (BCF)

Assessment / Classification: No bioaccumulation is to be expected.

12.4 Mobility in soil

Assessment / Classification: Groundwater contamination is unlikely.

12.5 Results of PBT and vPvB assessment:

Glyphosate-diammonium is not considered to be very persistent and does not bioaccumulate
This mixture does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects: None known



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Additional ecotoxicological information: None known

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product:

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.

This material must be disposed of in a safe way.

Contaminated Packaging: The generation of waste should be avoided or minimized wherever possible. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Empty remaining contents. Triple rinse containers.

The container must be disposed of in a safe way.

14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Inland waterwaytransport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.2 UN Proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods



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14.3 Transport hazard class(es)	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
Hazard label(s)	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.4 Packing group	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.5 Environmental hazards	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods

14.6 Special precautions for user : None

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Additional information: None

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance of mixture:

15.1.1 EU regulations:

Authorisations and/or restrictions on use:

Authorisations: MAPP 18143

Restrictions on use: Use as herbicide only

Other EU regulations: GHS- Labelling

Supplemental information: Contains 1,2-benzisothiazol-3-one. May produce an allergic reactions.

Remarks: Classified using all GHS hazard classes and categories.

Where the GHS contains options, the most conservative option has been chosen.

Regional or national implementations of GHS may not implement all hazard classes and categories.

15.2 Chemical Safety Assessment: A chemical safety assessment is not required.

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16. OTHER INFORMATION

16.1 Indication of changes

16.2 Abbreviations and Acronyms

ADR	International Carriage of Dangerous Goods by Road
CAS No	Chemicals Abstract Service Registry Number
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DIN	Standard of the German Institute for Standardisation
DNEL	Derived no Effect Level
DMEL	Derived Minimal Effect Level
EC No	European Community Number for chemicals within EU regulations
IATA-DGR	Dangerous Goods Regulations by the International Air Transport Association
IC50	Half maximal inhibitory concentration
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
IMDG Code	International Maritime Dangerous Goods Code
PBT	Persistent, Bioaccumulative and Toxic Properties
vPvB	Very Persistent and Very Bioaccumulative
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the registration, Evaluation, Authorisation and restriction of Chemicals
RID	International Transport of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative Properties

16.3 Key literature references and sources for data : Syngenta

16.4 Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]: See SECTION 2.1 (classification).

Relevant R-, H- and EUH-phrases (number and full text):

Full texts of abbreviated H Statements refer to under Section 3:

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.



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16.6 Training advice: Follow the instructions on pack

16.7 Further information:

Before using this product, ensure that you read and understand its label

MSDS information:

This Safety Data Sheet is prepared in compliance with Regulation 1272/2008 and Annex I of the REACH regulation 453/2010.

This safety data sheet provides health and safety information. This product is to be used in applications with best use practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of our knowledge correct as at the date of publication. Westland Horticulture Limited does not accept responsibility for damage caused by incorrect use of this information.

Training and related advice:

This document contains important information to ensure the safe storage, handling and use of this product. It is the responsibility of your organisation to ensure that the information contained in this document is communicated to the end user and that all necessary training to enable the product to be used correctly has been given.

For further information please contact Westland Horticulture Ltd, 14 Granville Industrial Estate, Granville Road, Dungannon, County Tyrone, BT70 1NJ.