



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: Resolva Path & Patio concentrate

Version:1.0

Revision date: 23.04.2018

Print date:23.04.2018

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Resolva Path & Patio Concentrate

1.2 Relevant identified uses Herbicide

1.3 Details of the supplier of the safety data sheet

Westland Horticulture Ltd
14 Granville Industrial Estate
Granville Road
Dungannon
County Tyrone
BT70 1NJ

Email customerservice@WestlandHorticulture.com


1.4 Emergency telephone number 01480 443789 (UK)24hrs

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture According to Regulation (EC) No 1272/2008:

Aquatic Acute 1	H400	Very toxic to aquatic life
Aquatic Chr 2	H411	Toxic to aquatic life with long lasting effects

2.2 Label Elements According to Regulation (EC) No 1272/2008:

Hazard Pictograms	GHS09 – Environmentally damaging	
Signal Word	Warning	
Hazard Statements	H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements

P273	Avoid release to the environment
P391	Collect spillage
P501	Dispose of contents/container to an approved waste disposal plant



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Supplemental Information

EUH401

To avoid risks to human health and the environment, comply with the instructions for use.

Contains diquat dibromide. May produce an allergic reaction

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: N/A

3.2 Description Herbicide containing 153g/l glyphosate and 4.5 g/l diquat as a soluble concentrate

Hazardous Ingredients

Ingredient	Identifiers	Concentration %W/W	Warning Symbols	Regulation (EC) No 1272/2008 (CLP)
Glyphosate	EC: 213-997-4 CAS: 1071-83-6	16.2 % W/W		Eye Dam. 1 H318 Aquatic Chr. 2 H411
D-Glucopyranose, oligomeric, decyl octyl glycosides	CAS: 68515-73-1 REACH Reg. No: 01-2119488530-36	1-5% W/W		Eye Dam. 1 H318
Diquat Dibromide	EC: 201-579-4 CAS: 85-00-7	0.7% W/W		Met. Corr. 1 H290 Acute Tox. 2 H330 Acute Tox. 4 H302 STOT RE1 H372 Eye Irrit. 2 H319 STOT SE3 H335 Skin Irrit. 2 H315 Skin Sens. 1 H317 Aquatic Acute 1 H400 Aquatic Chr. 1 H410

For the full text of the R phrases and H Statements mentioned in this section, see section 16.



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4. FIRST AID MEASURES

4.1 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.

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 and continue flushing.
Immediate medical attention is required.

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

4.2 Most Important Symptoms and Effects, both acute and delayed:

Inflammation of the mouth, throat and esophagus
Gastrointestinal discomfort
Diarrhoea

4.3 Indication of any immediate medical attention and special treatment needed

Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 litre for adults or 15ml/kg body weight in children)

Note: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit

Eye contact: Severe damage may be caused by apparently trivial contact and healing may be delayed. Medical supervision should continue until complete healing has occurred



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5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Extinguishing media – small fires: Use water spray, alcohol-resistant foam dry chemical or carbon dioxide

.Extinguishing media – large fires: Alcohol resistant foam or Water spray

Extinguishing Media Which Must Not Be Used For Safety Reasons:

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 (see section 10).

Exposure to decomposition products may be a hazard to health

5.3 Advice for Fire Fighters:

Wear full protective clothing and self-contained breathing apparatus, if required.

Further 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:

Refer to protective measures listed in sections 7 and 8.

5.2 Environmental Precautions:

Prevent further leakage or spillage if safe to do so.

Do not flush into surface water or sanitary sewer system.

5.3 Methods and Materials for Containment and Cleaning Up:

Contain Spillage, and then collect with non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Additional Advice: If the product contaminates rivers and lakes or drains inform respective authorities.



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7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling:

- No special protective measures against fire required.
- Avoid contact with skin and eyes
- When using do not eat, drink or smoke
- For personal protection see Section 8

7.2 Conditions for safe storage, including any incompatibilities

- No special storage conditions required.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep out of reach of children
- Keep away from food, drink and animal feeding stuffs
- Physically and chemically stable for at least two years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific End Uses:

Use only as herbicide according to the instruction on the label

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Component(s)	Exposure Limit(s)	Type of exposure limit	Source
Glyphosate	10mg/m ³	8 h TWA	SYNGENTA
Diquat Dibromide	0.5 mg/m ³ 1 mg/m ³	8h TWA 15 min STEL	UK HSE

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product

8.2 Exposure Controls

Appropriate engineering controls: Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.



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The extent of these protection measures depends on the actual risks in use. 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.

Personal protective equipment: The use of technical measures should always have priority over the use of personal protective equipment
When selecting personal protective equipment, seek appropriate professional advice
Personal protective equipment should be certified to appropriate standards

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

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

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

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

8.2.3 Environmental exposure controls: None

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Amber/ brown liquid

Physical state: liquid

Colour: Amber/ brown

Odour: faint sweetish

Odour threshold: none known



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9.2 Other information:

	Value	Concentration	Method	Temperature	Pressure	Remark
pH	6.1	1.0% w/v	-	25°C	-	-
Melting point/freezing point	-	-	-	-	-	-
Initial boiling point/boiling range	-	-	-	-	-	-
Flash point	>102°C	-	-	-	-	-
Evaporation rate	-	-	-	-	-	-
Flammability (solid, gas)	-	-	-	-	-	-
Upper/lower flammability or explosive limits	-	-	-	-	-	-
Upper explosive limits	-	-	-	-	-	-
Lower explosive limits	-	-	-	-	-	-
Vapour pressure	-	-	-	-	-	-
Vapour density	-	-	-	-	-	-
Relative density	1.164 g/ml	-	-	20°C	-	-
Solubility(ies)	-	-	-	-	-	-
Partition coefficient: n-octanol/water	-	-	-	-	-	-
Auto-ignition temperature	> 650 °C	-	-	-	-	-
Decomposition temperature	-	-	-	-	-	-
Viscosity	-	-	-	-	-	-
Viscosity, dynamic	-	-	-	-	-	-
Viscosity, cinematic	-	-	-	-	-	-
Explosive properties	none	-	-	-	-	-
Oxidising properties	none	-	-	-	-	-

Physical hazards: None known



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10. STABILITY AND REACTIVITY

10.1 Reactivity: None known

10.2 Chemical stability: None known

10.3 Possibility of hazardous reactions: None known. Hazardous polymerization does not occur.

10.4 Conditions to avoid: No information available, stable under normal conditions of use and storage.

10.5 Incompatible materials: none known

10.6 Hazardous decomposition products: Combustion or thermal decomposition will evolve toxic or irritant vapours

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution

11.1 Information on toxicological effects

Acute Oral Toxicity: LD50 Median lethal dose female rat, >5,000 mg/kg

Acute Inhalation Toxicity: LC50 Median lethal concentration male and female Rat, >2.56 mg/l, 4h

Acute Dermal Toxicity: LD50 Median lethal dose male and female Rat, >2,000 mg/kg

Skin corrosion/Irritation: Rabbit: Non Irritating

Eye damage/Irritation: Rabbit: Mildly Irritating

Respiratory or Skin Sensitization: Buehler test guinea pig: not a skin sensitizer in animal tests.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): Glyphosate and diquat dibromide did not show mutagenic, carcinogenic, teratogenic or reproductive toxicity effects in animal experiments.



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STOT- repeated exposure: No adverse effect has been observed in chronic toxicity tests with glyphosate and diquat dibromide.
Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals to diquat dibromide

12. ECOLOGICAL INFORMATION

12.1 Toxicity

The toxicity data has been derived from components

- **Toxicity To Fish:** LC50 *Oncorhynchus mykiss* (rainbow trout), >100 mg/l, 96h
- **Toxicity To Aquatic Invertebrates:** EC50 *Daphnia magna* (water flea), 61 mg/l, 48h
- **Toxicity To Aquatic Plants:** EbC50 *Pseudokirchneriella subcapitata* (green algae), 2.8 mg/l, 96 h
ErC50 *Pseudokirchneriella subcapitata* (green algae), 4.9 mg/l, 96 h

12.2 Persistence and Degradability

- **Stability in Water:** Glyphosate Diammonium: Degradation half life: 302 d. Persistent in water.
Diquat dibromide: Degradation half life: >30 d. Persistent in water.
- **Stability in Soil:** Diquat dibromide: Degradation half life: 11-41y. Persistent in soil.

12.3 Bioaccumulative Potential: Glyphosate Diammonium: no data available
Diquat has low potential to bioaccumulate

12.4 Mobility in soil: Glyphosate and Diquat are immobile in soil.

12.5 Results of PBT and vPvB assessment: Glyphosate Diammonium: no data available
Diquat is not identified as PBT nor vPvB substances
D-Glucopyranose, oligomeric, decyl octyl glycosides is not identified as PBT nor vPvB substances

12.6 Other adverse effects: Classification of the product is based on the summation of the concentrations of classified components



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13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product: Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated Packaging: Empty remaining contents.
Triple rinse containers. The rinse water should be added to the final spray solution. It must not be put down the drain, sink or toilet
Completely empty containers can be put in the bin or disposed of in compliance with applicable local regulations.
Do not reuse empty containers.

14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA- DGR)
14.1 UN No.	UN 3082	UN 3082	UN 3082	UN 3082
14.2 UN Proper shipping name	Environmentally hazardous substance, liquid N.O.S Diquat dibromide	Environmentally hazardous substance, liquid N.O.S Diquat dibromide	Environmentally hazardous substance, liquid N.O.S Diquat dibromide	Environmentally hazardous substance, liquid N.O.S Diquat dibromide
14.3 Transport hazard class(es)	9	9	9	9
Hazard label(s)	9	9	9	9
14.4 Packing group	III	III	III	
14.5 Environmental hazards	Environmentally hazardous	Marine pollutant	Marine pollutant	N/A

14.6 Special precautions for user: None



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

Additional information: None

15. REGULATORY INFORMATION

Registration Numbers: MAPP 13671
PCS 03076

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

This mixture is classified and labelled according to the CLP Regulation (EC) No 1272/2008

15.2 Chemical Safety Assessment: A Chemical Safety Assessment is not required for this mixture

16. OTHER INFORMATION

16.1 Indication of changes: None

16.2 Abbreviations and Acronyms

ADR	International Carriage of Dangerous Goods by Road
CAS No	Chemicals Abstract Service Registry Number
Directive 67/548/EEC	Dangerous Substances Directive (DSD)
EC No	European Community Number for chemicals within EU regulations
IATA-DGR	Dangerous Goods Regulations by the International Air Transport Association
IMDG Code	International Maritime Dangerous Goods Code
MAPP	Ministerially Approved Pesticide Product
PCS	Pesticide Control Service
PBT	Persistent, Bioaccumulative and Toxic Properties
Regulation (EC) No 1272/2008	Classification, Labelling and Packaging (CLP)
RID	International Transport of Dangerous Goods by Rail
vPvB	Very Persistent and Very Bioaccumulative Properties

16.3 Key literature references and sources for data: Syngenta



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

CLP/GHS:	Acute Tox 2; Acute Toxicity, Category 2
	Acute Tox 4; Acute Toxicity, Category 4
	Aquatic Acute 1; Aquatic Acute Toxicity, Category 1
	Aquatic Chr 1; Aquatic Chronic Toxicity, Category 1
	Aquatic Chr 2; Aquatic Chronic Toxicity, Category 2
	Eye Dam 1; Eye Damage, Category 1
	Eye Irrit. 2; Eye Irritation, Category 2
	Met. Corr. 1; Metal Corrosive, Category 1
	Skin Corr 1A; Skin Corrosion, Category 1A
	Skin Irrit. 2; Skin Irritation, Category 2
	STOT RE 1; Specific Target Organ Toxicity – Repeated Exposure, Category 1
	STOT SE 3; Specific Target Organ Toxicity – Single Exposure, Category 3
	Skin Sens. 1; Skin Sensitising, Category 1

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

H290	May be corrosive to metals
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effect

16.6 Training advice: Follow the instructions

16.7 Further information

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



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MSDS information:

This Safety Data Sheet is prepared in compliance with Directive 1999/45/EC, 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.