

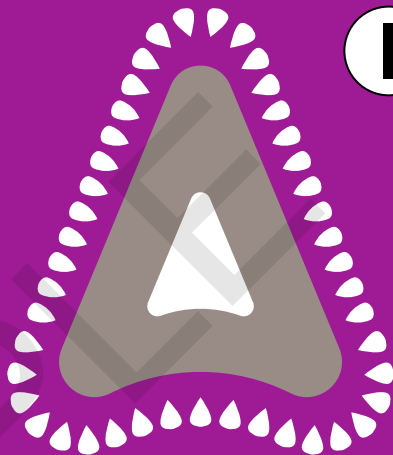
ADAMA

Revolt™

MAPP 13383

A contact insecticide for the control of aphids in winter and spring wheat and winter and spring barley and control of pollen beetles, cabbage seed weevil and aphids in winter and spring oilseed rape and reduction in cabbage stem flea beetle in winter oilseed rape.

An oil in water emulsion containing 240 g/litre (22.0% w/w) tau-fluvalinate.



Warning

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty, clean containers which can be disposed of as non-hazardous waste.

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

1 litre e

This leaflet/booklet is part of the approved label.

For advice on medical emergencies, fires or major spills telephone
the UK National Chemical Emergency Centre on 01865 407333

IMPORTANT INFORMATION

FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL INSECTICIDE

Crops/situations	Maximum individual dose (L/product/ha)	Maximum total dose (L/product/ha/crop)	Maximum number of treatments	Latest time of application
Wheat (winter)	0.2	0.4	-	Before kernel medium milk
Barley (winter)	0.2	0.4	-	Before caryopsis watery ripe
Wheat (spring)	0.15	-	1 per crop	Before kernel medium milk
Barley (spring)	0.15	-	1 per crop	Before caryopsis watery ripe
Oilseed rape	0.2	0.4	-	Up to and including the end of flowering

Other specific restrictions:

This product must not be applied to a cereal crop if any other product containing either a pyrethroid or dimethoate has been applied to that crop after the start of ear emergence.

A minimum interval of 14 days must be observed between applications when applied to listed cereals.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY PRECAUTIONS

Operator Protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) when applying the product.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher level of control.

AFTER CONTACT WITH SKIN, WASH IMMEDIATELY with plenty of water.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.

DO NOT BREATHE SPRAY.

WASH HANDS AND EXPOSED SKIN before meals and after work.

Environmental Protection

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.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m of the top of the bank of any static or flowing waterbody, or 1m of the top of a ditch which is dry at the time of application. DO NOT ALLOW DIRECT SPRAY from hand-held sprayers to fall within 1m of the top of the bank of a static or flowing waterbody. Aim spray away from water.



THIS PRODUCT IS NOT ELIGIBLE FOR BUFFER ZONE REDUCTION UNDER THE LERAP SCHEME. HIGH RISK TO CERTAIN NON-TARGET INSECTS OR OTHER ARTHROPODS. DO NOT SPRAY CEREALS within 6m of the field boundary.

Storage and Disposal

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

RINSE CONTAINER THOROUGHLY, by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

RESTRICTIONS

Safety to non-target arthropods

When used as directed at 0.15 L/ha, REVOLT™ presents a low risk to ground (carabid) beetles, rove (*Staphylinid*) beetles and adult hoverflies (*Syrphids*), though some reduction in numbers may occur. Laboratory studies indicate that reductions in fecundity and egg viability may occur.

Avoid spraying oilseed rape within 6m of the field boundary to reduce effects on certain non-target insects or other arthropods.

Resistance

Control may be reduced where strains of pests resistant to tau-fluvalinate develop.

PEST CONTROL

Winter and spring barley, winter and spring wheat

Summer aphids

Autumn/winter aphids

Winter and spring oilseed rape

Pollen (blossom) beetle

Aphids

Cabbage stem flea beetle (winter oilseed rape)

Cabbage seed weevil

CROP SPECIFIC INFORMATION

Winter and spring barley, winter and spring wheat (summer aphid control)

Maximum individual dose: 0.15 L/ha

As a guide, spray once when aphids appear on two thirds of the ears and numbers are increasing. Utilise local predictive warnings if available.

Winter barley and winter wheat (autumn/winter applications)

Maximum individual dose: 0.2 L/ha

Treat according to specialist advice, normally:

High Risk Crops; drilled in September/early October, in virus prone areas or following grass or weedy stubble.

Spray mid-October. A repeat application should be made during late autumn/early winter if aphid activity persists.

Medium Risk Crops; drilled before mid-October, in virus prone areas.

Spray late October/early November*.

Low Risk Crops; drilled after mid-October and crops in non-virus prone areas.

Follow seasonal warnings based on aphid monitoring in local area*.

N.B. *In mild conditions, later sprays may be worthwhile.

Maximum total dose (all cereal uses)

Winter wheat & barley – 0.4 L/product/ha/crop

Spring wheat & barley – 0.15 L/product/ha/crop

Latest time of application (cereals)

Winter and spring wheat: Before kernel medium milk

Winter and spring barley: Before caryopsis watery ripe

Winter and spring oilseed rape

Pollen (blossom) beetle

Maximum individual dose: 0.2 L/ha

Optimum control of this pest is achieved by application at the green to yellow bud stage. Apply according to local threshold advice.

A repeat application may be made if pollen beetle activity persists.

Aphids

Maximum individual dose: 0.2 L/ha

Not recommended for use to control aphids on spring rape. Spray according to local advice based on monitoring.

A repeat application may be made if aphid activity persists.

Cabbage stem flea beetle

Maximum individual dose: 0.2 L/ha

Egg hatch can be from October to March but mostly takes place in late autumn and from mid-late January. Apply according to local threshold advice. REVOLT will reduce damage caused by cabbage stem flea beetle in winter oilseed rape.

For optimal results a repeat application is advisable if cabbage stem flea beetle activity persists.

Cabbage seed weevil

Maximum individual dose: 0.2 L/ha

Apply during flowering period when the numbers of pests reach the threshold or according to local advice based on monitoring. This is usually between 20% pod set and the end of flowering. For spring varieties, make the first application at green to yellow bud stage. Make a repeat application during flowering as required.

Maximum total dose

Winter oilseed rape - 0.4 L/product/ha/crop

Spring oilseed rape - 0.4 L/product/ha/crop

Latest time of application

Winter and spring oilseed rape: Up to and including end of flowering

APPLICATION

Good spray cover of the target is essential. Apply through a conventional hydraulic sprayer.

Do not leave the spray liquid in the sprayer for long periods (i.e. during meals or overnight).

SPRAY VOLUME

A minimum of 200 litres of water per hectare should be used for all applications. Increase this volume of water in order to obtain good penetration into dense crops.

SPRAY QUALITY

Apply as a MEDIUM quality spray as defined by BCPC. A minimum pressure of 2-3 bar should be used.

MIXING AND SPRAYING

Shake the container of REVOLT thoroughly before opening. Add half the required volume of clean water to the spray tank. Add the recommended quantity of REVOLT. Agitate whilst filling the tank to the required water volume and continue agitation during spraying. Wash out all spray equipment with water immediately after use.

CONDITIONS OF SUPPLY

All products supplied by us are of high grade and conform to specification at the time of delivery, but, as we cannot exercise control over their subsequent storage, handling, mixing or use or the weather conditions before, during and after application which may affect the performance of the products, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our products are excluded and no responsibility or liability will be accepted by us or our re-sellers for any failure in performance, damage or injury to person or property whatsoever arising from the storage, handling, application or use of the products. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such products.

Adama Agricultural Solutions UK Ltd
Unit 15, Thatcham Business Village
Colthrop Way, Thatcham, Berkshire RG19 4LW
Telephone: 01635 860555
Technical Helpline: 01635 876622
www.adama.com
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This Safety Data Sheet does not form part of the approved label. Following the instructions on the pesticide Product Label for the specified uses should ensure that the product is used safely and efficaciously for those uses.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 Annex II

Revised on / Version: 24.10.2013 / 0001
Replaces revision of / Version: 24.10.2013 / 0001
Valid from: 24.10.2013

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

1.1 Product identifier

Revolt

240 g/l tau-fluvalinate CAS 102851-06-9

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

Relevant identified uses of the substance or mixture:

Insecticide

Uses advised against:

Not applicable

1.3 Details of the supplier of the safety data sheet

Adama Agricultural Solutions UK Ltd,
Unit 15, Thatcham Business Village
Colthrop Way, Thatcham, Berkshire RG19 4LW
Telephone: 01635 860555, Fax: 01635 861555

Qualified person's e-mail address: info@chemical-check.de,
k.schnurbusch@chemical-check.de
Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone

Emergency information services/official advisory body:
National Chemical Emergency Centre (UK): 01865 407333 (24 hours)
Telephone number of the company in case of emergencies:
Telephone: 01635 860555

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Aquatic Acute	1	H400-Very toxic to aquatic life.
Aquatic Chronic	1	H410-Very toxic to aquatic life with long lasting effects.

2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments)

N, Dangerous for the environment, R50-53

2.2 Label elements

2.2.1 Labelling according to Regulation (EC) 1272/2008 (CLP)

Warning



Hazard statement

H410-Very toxic to aquatic life with long lasting effects.
P102-Keep out of reach of children.

Disposal

P501-Dispose of contents/container to hazardous or special waste collection point.

EUH401-To avoid risks to human health and the environment, comply with the instructions for use.

SP 1-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).

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Formulation: emulsion in water

3.1 Substance

n.a.

3.2 Mixture

tau-fluvalinate	
Registration number (REACH)	---
Index	607-238-00-X
EINECS, ELINCS, NLP	---
CAS	CAS 102851-06-9
Content %	20-<25
Classification according to Directive 67/548/EEC	Harmful, Xn, R22 Irritant, Xi, R38 Dangerous for the environment, N, R50 Dangerous for the environment, R53
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H302 Skin Irrit. 2, H315 Aquatic Acute 1, H400 (M=1000) Aquatic Chronic 1, H410 (M=1000)
Hydrocarbons, C9, aromatics	
Registration number (REACH)	01-2119455851-35-XXXX
Index	---
EINECS, ELINCS, NLP	918-668-5 (REACH-IT List-No.)
CAS	(64742-95-6)
Content %	1-5
Classification according to Directive 67/548/EEC	Flammable, R10 Irritant, Xi, R37 Dangerous for the environment, N, R51 Dangerous for the environment, R53 Harmful, Xn, R65 R66 R67
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H335 STOT SE 3, H336 Aquatic Chronic 2, H411

Methanol	Substance for which an EU exposure limit value applies.
Registration number (REACH)	--
Index	603-001-00-X
EINECS, ELINCS, NLP	200-659-6
CAS	CAS 67-56-1
Content %	<1
Classification according to Directive 67/548/EEC	Highly flammable, F, R11 Toxic, T, R23/24/25 Toxic, T, R39/23/24/25
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 STOT SE 1, H370

For the text of the R-phrases / H-phrases and classification codes (GHS/CLP), see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.

Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in Section 11 and the absorption route in Section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

n.c.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray/foam/CO₂/dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon
Oxides of nitrogen
Hydrogen chloride
Toxic gases

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary

Dispose of contaminated extinction water according to official regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.

Avoid inhalation and contact with eyes or skin.

If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

Fill the absorbed material into lockable containers.

Clean soiled bottles immediately.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: HANDLING AND STORAGE

In addition to information given in this section, relevant information can also be found in Sections 6.1 and 8.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

Avoid aerosol formation.

Avoid contact with eyes or skin.

Eating, drinking, smoking, as well as food storage, is prohibited in work room.

Separate storage of protective clothing.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Observe regulations for keeping separated.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Under all circumstances prevent penetration into the soil.

Store at room temperature.

Protect from direct sunlight and warming.

Protect from frost.

7.3 Specific end use(s)

No information available at present.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40): 500 mg/m³

Chemical Name	Hydrocarbons, C9, aromatics	Content %: 1-5
WEL-TWA: 500 mg/m ³ (Aromatics)	WEL-STEL: ---	---
BMGV: ---	Other information: ---	

Chemical Name	Methanol	Content %: <1
WEL-TWA: 200 ppm (266 mg/m ³) (WEL), 200 ppm (260 mg/m ³) (EU)	WEL-STEL: 250 ppm (333 mg/m ³) (WEL)	---
BMGV: ---	Other information: Sk (WEL, EU)	

Chemical Name	Propane-1,2-diol	Content %:
WEL-TWA: 150 ppm (474 mg/m ³) (total, vapour and particulates), 10 mg/m ³ (particulates)	WEL-STEL: ---	---
BMGV: ---	Other information: ---	

WEL-TWA = Workplace Exposure Limit - Long term exposure limit (8 hour TWA (= time weighted average) reference period) EH40. AGW = 'Arbeitsplatzgrenzwert' (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short term exposure limit (15 minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = 'Biologischer Grenzwert' (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

Methanol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers/employees	Human – dermal	Short term, systemic effects	DNEL	40	mg/kg body weight/day	
Workers/employees	Human – inhalation	Short term, systemic effects	DNEL	260	mg/m ³	
Workers/employees	Human – inhalation	Short term, local effects	DNEL	260	mg/m ³	
Workers/employees	Human – dermal	Long term, systemic effects	DNEL	40	mg/kg body weight/day	
Workers/employees	Human – inhalation	Long term, systemic effects	DNEL	260	mg/m ³	
Workers/employees	Human – inhalation	Long term, local effects	DNEL	260	mg/m ³	
Consumer	Human – dermal	Short term, systemic effects	DNEL	8	mg/kg body weight/day	
Consumer	Human – inhalation	Short term, systemic effects	DNEL	50	mg/m ³	
Consumer	Human – oral	Short term, systemic effects	DNEL	8	mg/kg body weight/day	
Consumer	Human – inhalation	Short term, local effects	DNEL	50	mg/m ³	
Consumer	Human – dermal	Long term, systemic effects	DNEL	8	mg/kg body weight/day	
Consumer	Human – inhalation	Long term, systemic effects	DNEL	50	mg/m ³	
Consumer	Human – oral	Long term, systemic effects	DNEL	8	mg/kg body weight/day	
Consumer	Human – inhalation	Long term, local effects	DNEL	50	mg/m ³	

Hydrocarbons, C9, aromatics						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers/employees	Human – dermal	Long term, systemic effects	DNEL	25	mg/kg bw/day	
Workers/employees	Human – inhalation	Long term, systemic effects	DNEL	150	mg/m ³	
Consumer	Human – inhalation	Long term, systemic effects	DNEL	32	mg/m ³	
Consumer	Human – dermal	Long term, systemic effects	DNEL	11	mg/kg bw/d	
Consumer	Human – oral	Long term, systemic effects	DNEL	11	mg/kg bw/day	

Propane-1,2-diol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers/employees	Human – inhalation	Long term, systemic effects	DNEL	168	mg/m ³	
Workers/employees	Human – inhalation	Long term, local effects	DNEL	10	mg/m ³	
Consumer	Human – dermal	Long term, systemic effects	DNEL	213	mg/kg	
Consumer	Human – inhalation	Long term, systemic effects	DNEL	50	mg/m ³	
Consumer	Human – oral	Long term, systemic effects	DNEL	85	mg/kg	
Consumer	Human – inhalation	Long term, local effects	DNEL	10	mg/m ³	
	Environment – freshwater		PNEC	260	mg/l	
	Environment – marine		PNEC	26	mg/l	
	Environment – sewage treatment plant		PNEC	2000	mg/l	
	Environment – sediment, freshwater		PNEC	572	mg/kg	
	Environment – sediment, marine		PNEC	57,2	mg/kg	
	Environment – soil		PNEC	50	mg/kg	
	Environment – water, sporadic (intermittent) release		PNEC	183	mg/l	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingsuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Universal protective gloves (plant protection)

Minimum layer thickness in mm: 0,5

Permeation time (penetration time) in minutes: >= 120

The breakthrough times determined in accordance with EN 374 Part III were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments)

Respiratory protection:

If OES or MEL is exceeded.

Gas mask filter A (EN 14387), code colour brown

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable.

Additional information on hand protection - No tests have been performed. In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents. Selection of materials derived from glove manufacturer's indications. Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account. Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Grey, white
Odour:	Slightly
Odour threshold:	Not determined
pH-value:	5,2 - 5,4 (1%, CIPAC MT 75.2)
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	-95°C
Flash point:	>95°C (DIN 51758 (Pensky-Martens, closed cup))
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	n.a.
Upper explosive limit:	n.a.
Vapour pressure:	0,00009 µPa (20°C, tau-fluvalinate, (calc))
Vapour density (air = 1):	Not determined
Density:	1,088 g/ml (Regulation (EC) 440/2008 A.3. (RELATIVE DENSITY))
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	Emulsion
Partition coefficient (n-octanol/water):	7,02 (tau-fluvalinate, (log Pow, HPLC))
Auto-ignition temperature:	455°C (Regulation (EC) 440/2008 A.15. (AUTO-IGNITION TEMPERATURE (LIQUIDS AND GASES)))
Decomposition temperature:	Not determined
Viscosity:	280 mPas (20°C, (rotational viscosimeter))
Explosive properties:	Product is not explosive
Oxidising properties:	Not to be expected

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	47,6-47,7 mN/m (20°C, Regulation (EC) 440/2008 A.5. (SURFACE TENSION))
Solvents content:	Not determined
Metal content:	Not determined
Molar mass:	Not determined
Chemical heat of combustion:	Not determined

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Not to be expected

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

See also Section 7.

Protect from frost.

Heating

10.5 Incompatible materials

See also Section 7.

Avoid contact with other chemicals.

Avoid contact with strong oxidising agents.

10.6 Hazardous decomposition products

See also Section 5.2.

No decomposition when used as directed.

SECTION 11: TOXICOLOGICAL INFORMATION

Possibly more information on health effects, see Section 2.1 (classification).

Revolt						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	17140	mg/kg	Rat		(male)
Acute toxicity, by oral route:	LD50	2020	mg/kg	Rat		(female)
Acute toxicity, by dermal route:	LD50	>2100	mg/kg	Rat		
Acute toxicity, by inhalation:	LC50	>2,94	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Maximum achievable concentration.
Skin corrosion/irritation:				Rabbit		Not irritant
Serious eye damage/irritation:				Rabbit		Slightly irritant
Respiratory or skin sensitisation:				Guinea pig		No (skin contact)
Germ cell mutagenicity:					Regulation (EC) 440/2008 B. 14 (REVERSE MUTATION TEST USING BACTERIA)	Negative
Carcinogenicity:				Human being		Negative
Reproductive toxicity:						Negative
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Respiratory tract irritation:						n.d.a.
Repeated dose toxicity:						n.d.a.
Symptoms:						n.d.a.
Other information:						Classification based on toxicological analyses.

tau-fluvalinate						
Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	261-282	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Serious eye damage/irritation:						Mild irritant
Respiratory or skin sensitisation:				Guinea pig		Not sensitising

Hydrocarbons, C9, aromatics

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000- <5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Skin corrosion/irritation:						Mild irritant, repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:						Not sensitising
Germ cell mutagenicity:						Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative
Specific target organ toxicity - single exposure (STOT-SE):						May cause drowsiness or dizziness, May cause respiratory irritation.
Aspiration hazard:						Yes
Respiratory tract irritation:						Irritant
Symptoms:						respiratory distress, coughing, burning of the membranes of the nose and throat, dizziness, headaches, nausea, unconsciousness, fever, ear noises, drying of the skin.

Methanol

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	300	mg/kg	Human being		Experiences on persons.
Acute toxicity, by oral route:	LD0	143	mg/kg	Human being		
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	IUCLID Chem. Data Sheet (ESIS)	Not relevant for classification.
Acute toxicity, by inhalation:	LC50	85	mg/l/4h	Rat		Not relevant for classification.
Skin corrosion/irritation:				Rabbit		Mild irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Mild irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitising
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						abdominal pain, vomiting, headaches, gastrointestinal disturbances, drowsiness, visual disturbances, watering eyes, nausea, mental confusion

tau-fluvalinate							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	0,0403	mg/l	Oncorhynchus mykiss		
Toxicity to daphnia:	LC50	48h	0,00085	mg/l	Daphnia magna		
Toxicity to algae:	ErC50	72h	19,6	mg/l			
Toxicity to bacteria:	EC50	3h	>1000	mg/l			
Water solubility:							Insoluble

Hydrocarbons, C9, aromatics							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	9,22	mg/l	Oncorhynchus mykiss		
Toxicity to daphnia:	EC50	48h	21,3	mg/l			
Toxicity to algae:	EC50	72h	2,6-2,9	mg/l	Pseudokirchnerie lla subcapitata		
Persistence and degradability:		28d	54-56	%		OECD 301 B (Ready Biodegradability - CO ₂ Evolution Test)	
Persistence and degradability:		28d	78	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	
Results of PBT and vPvB assessment:							No PBT substance, No vPvB substance

Methanol							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	15400	mg/l	Lepomis macrochirus		
Toxicity to daphnia:	EC50	48h	>10000	mg/l	Daphnia magna		
Toxicity to algae:	IC50	72h	8000	mg/l			
Persistence and degradability:	BOD5/COD		<50	%			
Bioaccumulative potential:	BCF		28400		Chlorella vulgaris		
Other information:	DOC		<70	%			
Other information:	BOD		>60	%			Readily biodegradable

Propane-1,2-diol							
Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>1000	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia:	EC50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae:	EC50	72h	>1000	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
Persistence and degradability:		28d	81	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	
Persistence and degradability:		28d	87-92	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	
Bioaccumulative potential:	BCF		<100				
Results of PBT and vPvB assessment:							n.a.
Toxicity to bacteria:	EC50	3h	>1000	mg/l	activated sludge		
Toxicity to bacteria:	IC50	30min	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other information:	COD		1,585	mg/g			
Water solubility:							Mixable

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances.

(2001/118/EC, 2001/119/EC, 2001/573/EC).

02 01 08 agrochemical waste containing dangerous substances.

07 04 01 aqueous washing liquids and mother liquors.

20 01 19 pesticides.

Recommendation:

Pay attention to local and national official regulations e.g. suitable incineration plant, dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: TRANSPORT INFORMATION

General statements

UN number: 3082
Transport by road/by rail (ADR/RID)

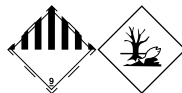
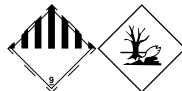
UN proper shipping name:
 UN 3082 ENVIRONMENTALLY
 HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S. (TAU-FLUVALINATE,SOLVENT NAPHTHA)

Transport hazard class(es): 9
 Packing group: III
 Classification code: M6
 LQ (ADR 2013): 5 L
 LQ (ADR 2009): 7
 Environmental hazards: environmentally hazardous
 Tunnel restriction code: E

Transport by sea (IMDG-code)

UN proper shipping name:
 ENVIRONMENTALLY HAZARDOUS
 SUBSTANCE, LIQUID, N.O.S.
 (TAU-FLUVALINATE,SOLVENT NAPHTHA)

Transport hazard class(es): 9
 Packing group: III
 EmS: F-A, S-F
 Marine pollutant: Yes
 Environmental hazards: environmentally hazardous



Transport by air (IATA)

UN proper shipping name:
Environmentally hazardous
substance, liquid, n.o.s.
(TAU-FLUVALINATE,
SOLVENT NAPHTHA)
Transport hazard class(es):
Packing group:
Environmental hazards:



9
III
environmentally hazardous

Special precautions for user

Persons employed in transporting dangerous goods must be trained. All persons involved in transporting must observe safety regulations. Precautions must be taken to prevent damage.

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

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.

SECTION 15: REGULATORY INFORMATION

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

For classification and labelling see Section 2.

Observe restrictions:

Yes

Comply with trade association/occupational health regulations.

Observe youth employment law (German regulation).

Observe plant protection medium law.

Observe incident regulations.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: OTHER INFORMATION

These details refer to the product as it is delivered.

Revised sections:

n.a.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Aquatic Acute 1, H400	Classification based on test data
Aquatic Chronic 1, H410	Classification based on test data

The following phrases represent the posted R phrases / H phrases, Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Sections 2 and 3).

10 Flammable.

11 Highly flammable.

22 Harmful if swallowed.

23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

37 Irritating to respiratory system.

38 Irritating to skin.

39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

50 Very toxic to aquatic organisms.

50/53 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

51 Toxic to aquatic organisms.

53 May cause long term adverse effects in the aquatic environment.

65 Harmful: may cause lung damage if swallowed.

66 Repeated exposure may cause skin dryness or cracking.

67 Vapours may cause drowsiness and dizziness.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H370 Causes damage to organs.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Aquatic Acute — Hazardous to the aquatic environment - acute

Acute Tox. — Acute toxicity - oral

Skin Irrit. — Skin irritation

Flam. Liq. — Flammable liquid

Asp. Tox. — Aspiration hazard

STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation

STOT SE — Specific target organ toxicity - single exposure - narcotic effects

Acute Tox. — Acute toxicity - inhalation

Acute Tox. — Acute toxicity - dermal

STOT SE — Specific target organ toxicity - single exposure

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

Chemical Check GmbH, Chemical Check Platz 1-7, D-32839

Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90

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SAFETY PRECAUTIONS

Operator Protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) when applying the product.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher level of control.

AFTER CONTACT WITH SKIN, WASH IMMEDIATELY with plenty of water.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with plenty of water and seek medical advice.

DO NOT BREATHE SPRAY.

WASH HANDS AND EXPOSED SKIN before meals and after work.



Environmental Protection

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.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5m of the top of the bank of any static or flowing waterbody, or 1m of the top of a ditch which is dry at the time of application. DO NOT ALLOW DIRECT SPRAY from hand-held sprayers to fall within 1m of the top of the bank of a static or flowing waterbody. Aim spray away from water.

THIS PRODUCT IS NOT ELIGIBLE FOR BUFFER ZONE REDUCTION UNDER THE LERAP SCHEME.

HIGH RISK TO CERTAIN NON-TARGET INSECTS OR OTHER ARTHROPODS.

DO NOT SPRAY CEREALS within 6m of the field boundary.

Storage and Disposal

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of safely.

IMPORTANT INFORMATION

FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL INSECTICIDE

Crops/situations: Wheat (winter & spring), barley (winter & spring) and oilseed rape.

Maximum individual dose (L/product/ha)

Maximum total dose (L/product/ha/crop)

Maximum number of treatments

Latest time of application

Other specific restrictions

Full details are given in the information box within the attached leaflet.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

Adama Agricultural Solutions UK Ltd

Unit 15, Thatcham Business Village,
Colthrop Way, Thatcham, Berkshire RG19 4LW

Telephone: (01635) 860555

Technical Helpline: (01635) 876622

www.adama.com | ukenquiries@adama.com

For advice on medical emergencies, fires or major spills telephone the UK National Chemical Emergency Centre on 01865 407333

PROTECT FROM FROST SHAKE WELL BEFORE USE

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

Batch No.: see packaging

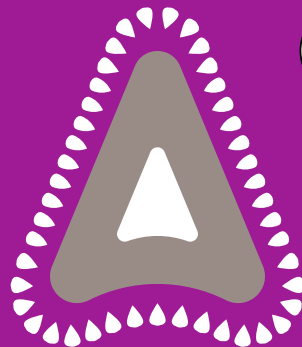
ADAMA

Revolt™

MAPP 13383

A contact insecticide for the control of aphids in winter and spring wheat and winter and spring barley and control of pollen beetles, cabbage seed weevil and aphids in winter and spring oilseed rape and reduction in cabbage stem flea beetle in winter oilseed rape.

An oil in water emulsion containing 240 g/litre (22.0% w/w) tau-fluvalinate.



Warning

Very toxic to aquatic life with long lasting effects.

Keep out of reach of children.

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty, clean containers which can be disposed of as non-hazardous waste.

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

1 litre e