

European Commission



**Draft Renewal Assessment Report prepared according to the Commission
Regulation (EU) N° 1107/2009**

INDOXACARB

**Volume 3 – B.4 (PPP) – INDOXACARB 150 g/L
EC**

Rapporteur Member State: France
Co-Rapporteur Member State: Spain

Version History

When	What
2016-12	Initial RAR

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B.4. FURTHER INFORMATION

B.4.1. SAFETY INTERVALS AND OTHER PRECAUTIONS TO PROTECT HUMANS, ANIMALS AND THE ENVIRONMENT

B.4.2. RECOMMENDED METHODS AND PRECAUTIONS

Procedures for cleaning application equipment and protective clothing

At the end of the day

When multiple loads of pesticide are applied, it is recommended that at the end of each day of spraying the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the build-up of dried pesticide deposits which can accumulate in the application equipment.

Procedure:

- Step 1 Drain tank as completely as possible.
- Step 2 Hose down all interior tank surfaces with water (approx. 10% of the tank capacity). Flush this rinse through all lines and the boom and drain tank as completely as possible.
- Step 3 Remove all nozzles, nozzle screens, in-line filters, or filters of any type and clean thoroughly in a bucket of water. If there is any residue or deposits on these, take a brush and make sure no residue remains.
- Step 4 Hose down all interior tank surfaces with water (approx. 10% of the tank capacity). Flush this rinse through all lines and the boom and drain tank as completely as possible.

Effectiveness of the cleaning procedures

Tank clean-out studies for Indoxacarb 150 g/L EC were not evaluated as part of the EU review of indoxacarb. Therefore, all relevant data are provided here and are considered adequate.

Study submitted to the EU for the first time in this submission and listed under “Documents Submitted”

Report: Reap, J.J. (2007); Indoxacarb 150 gram per liter emulsifiable concentrate insecticide formulation: Laboratory study of spray tank cleanout

DuPont Report No.: DuPont-24053

Guidelines: Directive 91/414/EEC (1991)

Testing Facility: DuPont Stine-Haskell Research Center, Newark, Delaware, USA

Testing Facility Report No.: DuPont-24053

GLP: No

Certifying Authority: Laboratories in the USA are not certified by any governmental agency, but are subject to regular inspections by the U.S.EPA.

Executive summary:

A laboratory procedure was conducted to simulate the spray tank clean-out of Indoxacarb 150 g/L EC. Results indicate that a double rinse clean-out procedure is effective.

I. MATERIALS AND METHODS

A. MATERIALS

Test material:	Indoxacarb 150 g/L EC
Lot/Batch #:	JUL06BL012
Purity:	150 g a.s./L
Description:	Liquid
CAS#:	None for the formulation 173584-44-6 for active substance indoxacarb
Stability of test compound:	Shown to be stable under the conditions of the test

B. STUDY DESIGN AND METHOD

The DuPont jar Test protocol was used to evaluate the effectiveness of the recommended cleaning procedure.

300 mL of CIPAC 'D' water were placed into a 400-mL beaker and stirred. To this, 3.0 mL of Indoxacarb 150 g/L EC was added (corresponding to a concentrated spray solution of 150 g indoxacarb (DPX-KN128)/ha (*e.g.*, 1 litre) at a spray volume of 100 L/ha. After 2 minutes of stirring, 100-mL aliquots were poured into three 4-oz polyethylene bottles that were capped and allowed to stand at room temperature overnight.

Each polyethylene bottle was subjected to a standard clean-out:

1. The bottle was inverted twice and the liquid was discarded.
2. 10 mL tap water was added, the bottle was inverted twice, and the rinsate was discarded.
3. Step 2 was repeated.
4. 5 mL of acetonitrile and 10 mL of water were added and the bottle was shaken well.
5. The acetonitrile solution was analysed for indoxacarb.

II. RESULTS AND DISCUSSION

The concentration of indoxacarb found in the acetonitrile extract after the clean-out was <1 ppm. This represents less than 0.1% of the highest possible concentration in the spray tank. The results indicate that the clean-out procedure prescribed is effective.

III. CONCLUSION

More than 99.9% of the indoxacarb was removed after the clean-out. The results indicate that the clean-out procedure prescribed is effective.

(Reap, J.J., 2007)

Risks from recommended methods, precautions and procedures

Please refer to the safety data sheet for Indoxacarb 150 g/L provided in

Appendix 1.**Hazard identification:**

On the basis of available information the product is not expected to produce any significant adverse health or environmental effects when the recommended use instructions are followed.

Handling:

Good industrial practice in housekeeping and personal hygiene should be followed. When using, do not eat, drink, or smoke. Wash hands thoroughly after handling or contact. Thoroughly clean equipment after use.

Wear personal protective equipment. Use only clean equipment. Provide adequate ventilation. Do not breathe vapours or spray mist. When opening containers, avoid breathing vapours that may be emanating. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solutions as soon as possible. Do not store. To avoid spills during handling keep bottle on metal tray. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Never return unused material to storage receptacle. Avoid exceeding of the given occupational exposure limits.

Never return spills in original containers for re-use. Dispose of in accordance with local regulators.

Keep away from heat and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.

The product should not be dumped, spilled, rinsed, or washed into sewer or public waterways. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Local authorities should be advised if significant spillages cannot be contained. If the product contaminates rivers and lakes or drains, inform respective authorities.

When off-loading large quantities of finished product, ensure that the vehicle is in a secure area and store in a secure area.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.

Warehouse storage:

Store in a dry place in accordance with relevant local regulations.

Storage in a place accessible by authorised persons only. Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink, and animal feedingstuffs.

There are no special restrictions on storage with other products.

Stable under recommended storage conditions and temperature (>3 to <54°C).

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.

User storage:

Keep out of the reach of children. Keep away from food, drink, and animal feeding stuffs. Keep only in the original container. Store under cool and dry conditions. Protect from freezing. Stable under recommended storage conditions and temperature (>3 to <54°C). The finished product is expected to have a shelf life of at least 2 years.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.

Transport

Environmentally hazardous substance, liquid, n.o.s., (indoxacarb), 9, UN 3082, PG III

ADR

UN number:	3082
UN proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (indoxacarb)
Transport hazard class(es):	9
Packing group:	III
Environmental hazards:	Environmentally hazardous
Special precautions for user:	Tunnel restriction code: (E)

IATA_C

UN number:	3082
UN proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (indoxacarb)
Transport hazard class(es):	9
Packing group:	III
Environmental hazards:	Environmentally hazardous
Special precautions for user:	DuPont internal recommendations and transport guidance; ICAO/ IATA cargo aircraft only

IMDG

UN number:	3082
UN proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (indoxacarb)
Transport hazard class(es):	9
Packing group:	III
Environmental hazards:	Marine pollutant
Special precautions for user:	No data available

Firefighting measures

Indoxacarb 150 g/L EC is non-flammable so no specific firefighting measures are proposed.

Use water spray, dry chemical, foam, carbon dioxide (CO₂). Indoxacarb 150 g/L EC is an emulsifiable concentrate that easily spreads with water, so run-off must be controlled. High volume water jet shall not be used for safety reasons (contamination risk).

Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

If the area is heavily exposed to fire and if conditions permit, let the fire burn itself out since water may increase the area contaminated. Cool containers/tanks with spray water.

Fire-fighters should wear self-contained breathing apparatus.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.

Protective clothing and equipment proposed-nature

Wear impermeable gloves and suitable protective clothing and eye/face protection.

Eye Protection	Safety glasses with side-shields conforming to EN166
Hand Protection	Material: Nitrile rubber, Glove thickness: 0,4 - 0,7 mm Glove length: Gauntlets of 35 cm long or longer. Protection index: Class 6 Wearing time: >480 min
Skin and body protection	Mixer and loaders must wear: Full protective clothing Type 6 (EN 13034) Rubber apron Rubber or plastic boots Spray application - outdoor: Tractor/ sprayer with hood: No personal body protection normally required. Tractor/ sprayer without hood: Full protective clothing Type 4 (EN 14605) Rubber or plastic boots Backpack/ knapsack sprayer: Full protective clothing Type 4 (EN 14605) Rubber or plastic boots When exceptional circumstances would require an access to the treated area before the end of re-entry periods, wear full protective clothing Type 6 (EN 13034), nitrile rubber gloves class 2 (EN 374) and nitrile rubber boots (EN 13832-3/ EN ISO 20345).
Respiratory protection	Mixer and loaders must wear: Half mask with vapour filter A1 (EN 141) Spray application - outdoor: Tractor/ sprayer with hood: No personal respiratory protective equipment normally required. Tractor/ sprayer without hood: Low application (horticulture, field crops): Half mask with a particle filter P1 (EN 143). Middle-height application: Half mask with a particle filter P2 (EN 143). Backpack/ knapsack sprayer: Low application (horticulture, field crops): Half mask with a particle filter P1 (EN 143). Middle-height application: Half mask with a particle filter P2 (EN 143).

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**Protective clothing and equipment proposed-characteristics**

No information is provided on the suitability of such clothing as its use is recommended on the basis of general advice for all plant protection products. Protective clothing should conform to relevant national standards for personal protective equipment.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**Sufficient data to evaluate suitability and effectiveness of protective clothing and equipment under realistic conditions of use**

No information is provided on the suitability of such clothing as its use is recommended on the basis of general advice for all plant protection products. Protective clothing should conform to relevant national standards for personal protective equipment.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**Procedures to minimise the generation of waste**

Purchase and store only those quantities of product required in the short term. Do not open larger containers than is necessary for immediate requirements. Do not mix a volume of spray solution greater than is required for immediate use.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.

Information on combustion products likely to be generated in the event of fire

Indoxacarb 150 g/L EC is non-flammable. In the event of fire, the formation of carbon dioxide and nitrogen oxides must be anticipated.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**B.4.3. EMERGENCY MEASURES IN CASE OF AN ACCIDENT****Containment of spillages**

Prevent entry into drains, waters or soil. Use adsorbent material to collect liquid spillage (*e.g.*, sawdust, peat, chemical binder). Place contaminated adsorbent into sealable containers.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**Decontamination of areas, vehicles and buildings**

If liquid has been spilled in small quantities, soak up with inert absorbent material. Sweep up or vacuum up spillage and collect in suitable container for disposal.

If liquid has been spilled in large quantities, contain spillage, soak up with non-combustible absorbent material (*e.g.*, sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations. Large spills should be collected mechanically (remove by pumping) for disposal. Collect leaking liquid in sealable (metal/plastic) contained.

Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**Disposal of damaged packaging, absorbents and other materials**

Dispose of all waste and contaminated clothing in the same manner as waste chemicals (*i.e.*, *via* an authorised disposal facility).

Close and label the waste receptacles and containers. Dispose of them at a suitable waste incineration plant and/or in accordance with the official local regulations. Where large quantities are concerned, consult the supplier.

European Waste Catalogue number: 020108 (agrochemical waste containing dangerous substances).

Do not re-use empty containers. Do not contaminate ponds, waterways or ditches with chemical or used containers.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.

Protection of emergency workers and bystanders

Use protective clothing as proposed. Keep bystanders away from the affected area.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**First aid measures**

General Advice	Never give anything by mouth to an unconscious person.
Skin contact:	Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use.
Grossly contaminated clothing:	Remove contaminated clothing. Wash before re-use.
Eye contact:	If easy to do, remove contact lens, if worn. Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist.
Inhalation:	Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.
Ingestion:	Obtain medical advice. DO NOT induce vomiting unless directed to do so by a physician or poison control centre. If victim is conscious: Rinse mouth with water (1-2 glasses of water).
Medical advice:	Over exposure symptoms unknown. Only minor local symptoms are expected. No specific antidote. Treat symptomatically.

Refer to the safety data sheet for Indoxacarb 150 g/L EC provided in

Appendix 1.**B.4.4. PACKAGING, COMPATIBILITY OF THE PLANT PROTECTION PRODUCT WITH PROPOSED PACKAGING MATERIALS****Description and specification of the packaging and materials used in packaging, size, capacity, size of openings, types of closures and seals**

Indoxacarb 150 g/L EC formulation will be packed in 50 to 5000 mL bottles.

50 mL pack size:

50 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Round-based bottle
Approximated size:	Diameter/ height = 40 mm/ 80 mm
Opening:	28 mm diameter
Closure:	Screw cap with tamper-evident ring

100 mL pack size:

20 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Round-based bottle
Approximated size:	Diameter/ height = 48 mm/ 104 mm
Opening:	28 mm diameter
Closure:	Screw cap with tamper-evident ring

200 mL pack size:

20 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Round-based bottle
Approximated size:	Diameter/ height = 55 mm/ 139 mm
Opening:	28 mm diameter
Closure:	Screw cap with tamper-evident ring

300 mL pack size:

20 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Round-based bottle
Approximated size:	Diameter/ height = 60 mm/ 161 mm
Opening:	28 mm diameter
Closure:	Screw cap with tamper-evident ring

500 mL pack size:

20 bottles are grouped into a corrugated box.

Material:	HDPE/F (High Density Polyethylene with Fluorination)
Shape/size:	Round-based bottle
Approximated size:	Diameter/ height = 76 mm/ 168 mm
Opening:	45 mm diameter
Closure:	Screw cap with sealing disk

1 L pack size:

10 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Rectangular-based bottle
Approximated size:	141 mm (L) × 90 mm (W) × 163 mm (H)
Opening:	63 mm diameter
Closure:	Screw cap with sealing disk

3 L pack size:

5 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Square-based bottle
Approximated size:	Length: 155 mm; Width: 106 mm; Height: 283 mm
Opening:	63 mm diameter
Closure:	Screw cap with sealing disk

5 L pack size:

4 bottles are grouped into a corrugated box.

Material:	HDPE/EVOH (High Density Polyethylene with Ethylene Vinyl Alcohol layer)
Shape/size:	Square-based bottle
Approximated size:	Length: 181 mm; Width: 151 mm; Height: 281 mm
Opening:	63 mm diameter
Closure:	Screw cap with sealing disk

Suitability of the packaging and closures

The packaging complies with ADR regulations having been tested using the ADR test methods appropriate to the pack type, material and classification of the contents. Appropriate UN certificate were issued.

Resistance of the packaging material to its contents

Storage stability study in commercial packaging made in HDPE/EVOH and PE/EVOH shows no perforation darkening, leakage or rust at the seam of the packaging: packaging remained intact and unaffected by the storage.

These packaging are standard DuPont packaging used for similar formulations of other compounds for more than 10 years. This long period of use has proved its suitability and resistance, which has been confirmed by additional compatibility and permeability tests.

B.4.5. PROCEDURES FOR DESTRUCTION OR DECONTAMINATION OF THE PLANT PROTECTION PRODUCT AND ITS PACKAGING**B.4.5.1. Neutralisation procedure**

A neutralisation procedure is not possible for the compound.

B.4.5.2. Controlled incineration**Pyrolytic behaviour of the active substance under controlled conditions at 800°C and the content of polyhalogenated dibenzo-p-dioxins in the products of hydrolysis**

The requirement does not apply to indoxacarb which contains less than 60% halogens.

A specific study on the thermal decomposition has not been carried out. Current practice used for experimental quantities of indoxacarb is to incinerate at a temperature greater than 900°C with a residence time of 2-4 seconds in the chamber. Oxygen supply should be adjusted to generate <100 ppm carbon monoxide in the stack.

Detailed instructions for safe disposal of the plant protection product and its packaging

All waste products should be packaged and labelled as waste chemical material. Product and packaging should be disposed of at a suitable waste incineration or disposal plant according to official regulations that apply.

Close and label the waste receptacles and, likewise, any uncleaned containers. Dispose of them at a suitable waste incineration plant and/or in accordance with the official local regulations. For large quantities contact the supplier.

Methods other than controlled incineration for disposal

No other methods are currently available.

B.4.6. REFERENCES RELIED ON

Data Point	Author(s)	Year	Title Compagny Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data protection claimed Y/N	Justification if data protection is claimed	Owner	Previous evaluation
CP, 4.2/01	Reap, J.J.	2007	Indoxacarb 150 gram per liter emulsifiable concentrate insecticide formulation: Laboratory study of spray tank cleanout DuPont Stine-Haskell Research Center DuPont-24053 GLP: No Published: No	N	N	N	DuPont	N

Appendix 1
Safety Data Sheet of Indoxacarb 150 g/L EC

SAFETY DATA SHEET according to Regulation (EC) No 1907/2006
and 453/2010



INDOXACARB 150G/L EC

Version 6.0 (replaces: Version 5.0)
Revision Date 17.07.2014

Ref. 130000027381

This Safety Data Sheet adheres to the standards and regulatory requirements of the European Community and may not meet the regulatory requirements of other countries.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : INDOXACARB 150G/L EC
Synonyms : B12109700
DPX-KN128 150EC

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

Use of the Substance/Mixture : Insecticide

1.3. Details of the supplier of the safety data sheet

Company : DuPont International Operations S.a.r.l.
2, chemin du Pavillon
CH-1218 Le Grand-Saconnex / GE
Switzerland

Telephone : +41 (0) 22 717 51 11

Telefax : +41 (0) 22 717 51 09

E-mail address : sds-support@che.dupont.com

1.4. Emergency telephone number

Emergency telephone number : +44 (0) 8456 006 640

Supplier : Du Pont de Nemours (France) S.A.S.
82, rue de Wittelsheim
F-68701 Cernay Cedex

Telephone : +33 (0) 3 89 38 38 38

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.
Specific target organ toxicity - single exposure, Category 2	H371: May cause damage to organs. (Nervous system)
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure. (blood system, Body weight effects)
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.
Harmful	R22: Harmful if swallowed.
Irritant	R38: Irritating to skin.
Harmful	R48/22: Harmful: danger of serious damage to health by prolonged exposure if

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Dangerous for the
environment

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

2.2. Label elements



Health hazard



Exclamation
mark



Environment

Warning

H302
H315
H371
H373
H411

Harmful if swallowed.
Causes skin irritation.
May cause damage to organs. (Nervous system)
May cause damage to organs through prolonged or repeated exposure. (blood
system, body weight effects)
Toxic to aquatic life with long lasting effects.

Special labelling of certain
substances and mixtures

Contains: Indoxacarb / EUH208: May produce an allergic reaction.,
EUH401: To avoid risks to human health and the environment, comply with the
instructions for use.,

P260
P270
P280
P302 + P352
P308 + P311
P362
P391
P501
P501

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Do not eat, drink or smoke when using this product.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF ON SKIN: Wash with plenty of soap and water.
IF exposed or concerned: Call a POISON CENTER or doctor/ physician.
Take off contaminated clothing and wash before reuse.
Collect spillage.
Dispose of contents to an approved incineration plant in accordance with local,
regional and national legislations.
Dispose of container to a waste disposal plant in accordance with local,
regional and national legislations.

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

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

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3.2. Mixtures

Registration number	Classification according to Directive 67/548/EEC	Classification according to Regulation (EU) 1272/2008 (CLP)	Concentration (% w/w)
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Indoxacarb (CAS-No.173584-44-6)
(M-Factor : 1[Acute])

	T;R25 R48/25 Xi;R43 N;R50/53 Xn;R20	Acute Tox. 3; H301 Acute Tox. 4; H332 Skin Sens. 1B; H317 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	15,84 %
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2-Ethylhexan-1-ol (CAS-No.104-76-7) (EC-No.203-234-3)

	Xi;R36/37/38 R67	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335, H336	>= 1 - < 5 %
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Calcium Petroleum Sulfonate (CAS-No.61789-86-4) (EC-No.263-093-9)

	Xi;R43	Skin Sens. 1B; H317	>= 1 - < 5 %
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The above products are REACH compliant; Registration number(s) may not be provided because substance(s) are exempted, not yet registered under REACH or are registered under another regulatory process (biocide uses, plant protection products), etc.

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	⌚ Never give anything by mouth to an unconscious person.
Inhalation	⌚ Move to fresh air. Consult a physician after significant exposure. Artificial respiration and/or oxygen may be necessary.
Skin contact	⌚ Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use.
Eye contact	⌚ If easy to do, remove contact lens, if worn. Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist.
Ingestion	⌚ Call a physician or poison control centre immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is conscious: Rinse mouth with water.

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

Symptoms : No cases of human intoxication are known and the symptoms of experimental intoxication are not known.

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

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO₂)

Extinguishing media which shall not be used for safety reasons : High volume water jet, (contamination risk)

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO₂) Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
: (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Control access to area. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ventilate spill area. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the spill area is porous, the contaminated material must be collected for subsequent

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

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Clean-up methods - small spillage Soak up with inert absorbent material. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean-up methods - large spillage Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Large spills should be collected mechanically (remove by pumping) for disposal. Collect leaking liquid in sealable (metal/plastic) containers.

Other information : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

6.4. Reference to other sections

For personal protection see section 8., For disposal instructions see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Use only according to our recommendations. Wear personal protective equipment. For personal protection see section 8. Use only clean equipment. Provide adequate ventilation. Do not breathe vapours or spray mist. When opening containers, avoid breathing vapours that may be emanating. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solution as soon as possible - Do not store. To avoid spills during handling keep bottle on a metal tray. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Never return unused material to storage receptacle. Avoid exceeding the given occupational exposure limits (see section 8).

Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a place accessible by authorized persons only. Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

Advice on common storage : No special restrictions on storage with other products.

Storage temperature : > 3 - < 54 °C

Other data : Protect from freezing. Stable under recommended storage conditions.

7.3. Specific end use(s)

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Plant protection products subject to Regulation (EC) No 1107/2009.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

If sub-section is empty then no values are applicable.

8.2. Exposure controls

- | | |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engineering measures | : Ensure adequate ventilation, especially in confined areas. Use sufficient ventilation to keep employee exposure below recommended limits. |
| Eye protection | : Safety glasses with side-shields conforming to EN166 |
| Hand protection | : Material: Nitrile rubber
Glove thickness: 0,4 - 0,7 mm
Glove length: Gauntlets of 35 cm long or longer.
Protection index: Class 6
Wearing time: > 480 min
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Gauntlets of 35 cm long or longer shall be worn over the combination sleeve. Before removing gloves clean them with soap and water. |
| Skin and body protection | : Manufacturing and processing work: Full protective clothing Type 6 (EN 13034)

Mixer and loaders must wear: Full protective clothing Type 6 (EN 13034) Rubber apron Rubber or plastic boots

Spray application - outdoor: Tractor / sprayer with hood: No personal body protection normally required.

Tractor / sprayer without hood: Full protective clothing Type 4 (EN 14605) Rubber or plastic boots

Backpack / knapsack sprayer: Full protective clothing Type 4 (EN 14605) Rubber or plastic boots

Mechanical automatized spray application in closed tunnel: No personal body protection normally required.

When exceptional circumstances would require an access to the treated area before the end of re-entry periods, wear full protective clothing Type 6 (EN |

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	13034), nitrile rubber gloves class 2 (EN 374) and nitrile rubber boots (EN 13832-3 / EN ISO 20345).
	To optimize the ergonomics it may be recommended to use cotton underwear when wearing some fabrics. Take advice from supplier. Garment materials that are resistant to both water vapour and air will maximise wearing comfort. Materials should be robust to maintain the integrity and barrier in use. The permeation resistance of the fabric must be verified independently of the « type » protection recommended, to ensure an appropriate performance level of the material adequate to the corresponding agent and type of exposure.
Protective measures	<ul style="list-style-type: none"> The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. Only protected handlers may be in the area during application.
Hygiene measures	<ul style="list-style-type: none"> Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Remove clothing/PPE immediately if material gets inside. For environmental protection remove and wash all contaminated protective equipment before re-use. Dispose of rinse water in accordance with local and national regulations.
Respiratory protection	<ul style="list-style-type: none"> Manufacturing and processing work: Half mask with vapour filter A1 (EN 141) Mixer and loaders must wear: Half mask with vapour filter A1 (EN 141) Spray application - outdoor: Tractor / sprayer with hood: No personal respiratory protective equipment normally required. Tractor / sprayer without hood: Low application (horticulture, field crops): Half mask with a particle filter P1 (EN 143). Middle-height application: Half mask with a particle filter P2 (EN 143). High application (orchard, fruit trees): Half mask with a particle filter P2 (EN 143). Backpack / knapsack sprayer: Low application (horticulture, field crops): Half mask with a particle filter P1 (EN 143). Middle-height application: Half mask with a particle filter P2 (EN 143). High application (orchard, fruit trees): Half mask with a particle filter P2 (EN 143). Mechanical automatized spray application in closed tunnel: No personal respiratory protective equipment normally required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : liquid

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Colour	: amber
Odour	: of burnt sugar
Odour Threshold	: not determined
pH	: 5,4 at 10 g/l (25 °C)
Melting point/range	: Not applicable
Boiling point/boiling range	: Not available for this mixture.
Flash point	: 69 °C
Flammability (solid, gas)	: The product is not flammable.
Thermal decomposition	: Not available for this mixture.
Auto-ignition temperature	: 255 °C
Oxidizing properties	: The product is not oxidizing.
Explosive properties	: Not explosive
Lower explosion limit/ lower flammability limit	: Not available for this mixture.
Upper explosion limit/ upper flammability limit	: Not available for this mixture.
Vapour pressure	: Not available for this mixture.
Relative density	: 0,9494 at 20 °C
Water solubility	: emulsifiable
Partition coefficient: n-octanol/water	: Not applicable
Viscosity, dynamic	: 5,6 mPa.s at 25 °C
Viscosity, kinematic	: 4,68 mm ² /s at 20 °C
Relative vapour density	: Not available for this mixture.
Evaporation rate	: Not available for this mixture.

9.2. Other information

Phys.-chem./other information : No other data to be specially mentioned.

SECTION 10: Stability and reactivity

10.1. Reactivity : No hazards to be specially mentioned.

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|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.2. Chemical stability | ⌚ The product is chemically stable under recommended conditions of storage, use and temperature. |
| 10.3. Possibility of hazardous reactions | ⌚ No dangerous reaction known under conditions of normal use. Polymerization will not occur. No decomposition if stored and applied as directed. |
| 10.4. Conditions to avoid | ⌚ Temperature : > 54 °C Protect from frost. |
| 10.5. Incompatible materials | ⌚ No materials to be especially mentioned. |
| 10.6. Hazardous decomposition products | ⌚ No materials to be especially mentioned. |

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

LD50 / Rat : 976,8 mg/kg

Method: OECD Test Guideline 425

(Data on the product itself) Information source: Internal study report

Acute inhalation toxicity

LC50 / 4 h Rat : > 5,2 mg/l

Method: OECD Test Guideline 403

(Data on the product itself) Information source: Internal study report

Acute dermal toxicity

LD50 / Rat : > 5 000 mg/kg

Method: OECD Test Guideline 402

(Data on the product itself) Information source: Internal study report

Skin irritation

Rabbit

Result: Irritating to skin.

Method: OECD Test Guideline 404

(Data on the product itself) Information source: Internal study report

Eye irritation

Rabbit

Result: No eye irritation

Method: OECD Test Guideline 405

(Data on the product itself) Information source: Internal study report

Sensitisation

Guinea pig Maximisation Test (GPMT)

Result: Animal test did not cause sensitization by skin contact.

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Method: OECD Test Guideline 406

(Data on the product itself) Information source: Internal study report

Repeated dose toxicity

Oral - feed Rat

Exposure time: 28 d

Method: OECD Test Guideline 408

Information source: Internal study report

Oral - feed Rat

Exposure time: 90 d

Method: OECD Test Guideline 408

Information source: Internal study report

Mutagenicity assessment

- Indoxacarb

Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.

Carcinogenicity assessment

- Indoxacarb

Animal testing did not show any carcinogenic effects.

Toxicity to reproduction assessment

- Indoxacarb

Animal testing did not show any effects on fertility. No toxicity to reproduction

Assessment teratogenicity

- Indoxacarb

Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

STOT - single exposure



Nervous system

May cause damage to organs.

STOT - repeated exposure



Blood, Body weight effects

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard



The mixture does not have properties associated with aspiration hazard potential.

SECTION 12: Ecological information

12.1. Toxicity

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Toxicity to fish

static test / LC50 / 96 h / Oncorhynchus mykiss (rainbow trout): 7,0 mg/l

Method: OECD Test Guideline 203

(Data on the product itself) Information source: Internal study report

Toxicity to aquatic plants

static test / ErC50 / 72 h / Pseudokirchneriella subcapitata (green algae): > 16 mg/l

Method: OECD Test Guideline 201

(Data on the product itself) Information source: Internal study report

Toxicity to aquatic invertebrates

static test / EC50 / 48 h / Daphnia magna (Water flea): 1,67 mg/l

Method: OECD Test Guideline 202

(Data on the product itself) Information source: Internal study report

Chronic toxicity to fish

- Indoxacarb

Early Life-Stage / NOEC / 90 d / Oncorhynchus mykiss (rainbow trout): 0,15 mg/l

Chronic toxicity to aquatic Invertebrates

- Indoxacarb

NOEC / 21 d / Daphnia magna (Water flea): 0,9 mg/l

12.2. Persistence and degradability

Biodegradability

Not readily biodegradable. Estimation based on data obtained on active ingredient.

12.3. Bioaccumulative potential

Bioaccumulation

Does not bioaccumulate. Estimation based on data obtained on active ingredient.

12.4. Mobility in soil

Mobility in soil

Under actual use conditions the product has a low potential of mobility in soil.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). / This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects

Additional ecological information

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No other ecological effects to be specially mentioned
See product label for additional application instructions relating to environmental precautions.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Product : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate ponds, waterways or ditches with chemical or used container.
- Contaminated packaging : Do not re-use empty containers.
- European Waste Catalogue number : 020108: agrochemical waste containing dangerous substances

SECTION 14: Transport information

ADR

- 14.1. UN number: 3082
- 14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Indoxacarb)
- 14.3. Transport hazard class(es): 9
- 14.4. Packing group: III
- 14.5. Environmental hazards: For further information see Section 12.
- 14.6. Special precautions for user: Tunnel restriction code: (E)

IATA_C

- 14.1. UN number: 3082
- 14.2. UN proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Indoxacarb)
- 14.3. Transport hazard class(es): 9
- 14.4. Packing group: III
- 14.5. Environmental hazards : For further information see Section 12.
- 14.6. Special precautions for user: DuPont internal recommendations and transport guidance: ICAO / IATA cargo aircraft only

IMDG

- 14.1. UN number: 3082
- 14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Indoxacarb)
- 14.3. Transport hazard class(es): 9
- 14.4. Packing group: III
- 14.5. Environmental hazards : Marine pollutant
- 14.6. Special precautions for user: no data available

- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

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Other regulations

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008. Take note of Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers. Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Take note of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances. Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

15.2. Chemical Safety Assessment

A Chemical Safety Assessment is not required for this/these products

The mixture is registered as a plant protection product under Regulation (EC) No. 1107/2009.

Refer to the label for exposure assessment information.

SECTION 16: Other information

Text of R-phrases mentioned in Section 3

R20	Harmful by inhalation.
R25	Toxic if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R43	May cause sensitisation by skin contact.
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R67	Vapours may cause drowsiness and dizziness.

Full text of H-Statements referred to under section 3.

H301	Toxic if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
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.

Other information professional use

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-No.	Chemical Abstracts Service number
CLP	Classification, Labelling and Packaging
EbC50	Concentration at which 50% reduction of biomass is observed
EC50	Median effective concentration
EN	European Norm
EPA	Environmental Protection Agency
ErC50	Concentration at which a 50% inhibition of growth rate is observed

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EyC50	Concentration at which 50 % inhibition of yield is observed
IATA_C	International Air Transport Association (Cargo)
IBC	International Bulk Chemical Code
ICAO	International Civil Aviation Organization
ISO	International Standard Organization
IMDG	International Maritime Dangerous Goods
LC50	Median Lethal Concentration
LD50	Median Lethal Dose
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No observed adverse effect level
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
OPPTS	Office of Prevention, Pesticides and Toxic Substances
PBT	Persistent, Bioaccumulative and Toxic
STEL	Short term exposure limit
TWA	Time Weighted Average (TWA):
vPvB	very Persistent and very Bioaccumulative

Further information

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Significant change from previous version is denoted with a double bar.

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