SAFETY DATA SHEET

INDOXACARB 30 WG

Version	Revision Date:	SDS Number (Internal):	Date of last issue: -
1.1	2025/03/06	50000104	Date of first issue: 2018/03/01

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : INDOXACARB 30 WG

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as insecticide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Korea Ltd

Address : 7F Mijing Building 111, Dogok-ro
Gangnam-gu, Seoul 06253, South Korea

Telephone : +82-2-539-6411

Telefax : +82-2-567-4662

E-mail address : SDS-Info@fmc.com

Emergency telephone : For leak, fire, spill or accident emergencies, call:
00308 132 549 (CHEMTREC)
Toll-free: 080-880-0454 (CHEMTREC)

Medical emergency:
All other countries: +1 651 / 632-6793 (Collect)

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Specific target organ toxicity - single exposure : Category 2 (Nervous system)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements : H302 Harmful if swallowed.
H371 May cause damage to organs (Nervous system).
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P260 Do not breathe dust.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container according to waste-related laws

Other hazards which do not result in classification

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester	indoxacarb (ISO)	173584-44-6	>= 25 - < 30
Silicon dioxide	Silicon dioxide	112926-00-8	>= 10 - < 15
kaolin	kaolin	1332-58-7	>= 5 - < 10
Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with for-	Residues (petroleum),	68425-94-5	>= 2.5 - < 5

maldehyde, sodium salts	catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts		
β-D-Fructofuranosyl-α-D-glucopyranoside	sucrose	57-50-1	>= 1 - < 5
sodium dodecyl sulphate	sodium dodecyl sulphate	151-21-3	>= 0.25 - < 1

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

In case of skin contact : Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.
Wash off immediately with soap and plenty of water.
Get medical attention if irritation develops and persists.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.
If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

If swallowed : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
May cause damage to organs.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

Avoid inhalation, ingestion and contact with skin and eyes.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable and unsuitable extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media : High volume water jet
Do not spread spilled material with high-pressure water streams.

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.
Chlorinated compounds
Fluorinated compounds
Nitrogen oxides (NOx)
Carbon oxides
Hydrogen cyanide

Specific extinguishing methods : 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.

Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Do not touch or walk through the spilled material.
If it can be safely done, stop the leak.
Ensure adequate ventilation.
Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Treat recovered material as described in the section "Disposal considerations".
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.

Environmental precautions : Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Silicon dioxide	112926-00-8	TWA	10 mg/m3	KR OEL
		TWA	10 mg/m3	KR OEL
kaolin	1332-58-7	TWA (Respirable fraction)	2 mg/m3	KR OEL
		TWA (Respirable particulate matter)	2 mg/m3	ACGIH
β-D-Fructofuranosyl-α-D-glucopyranoside	57-50-1	TWA	10 mg/m3	KR OEL
		TWA	10 mg/m3	ACGIH

Other ingredients, which are listed in section 3 but not listed in this section, do not have established occupational exposure limit values.

Personal protective equipment. Among the following personal protective equipment, the PPEs which require safety certification need to be certified by KOSHA.

Respiratory protection	:	Use respiratory protection (dust mask) unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Particulates type
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Hand protection		
Material	:	Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	:	Dust impervious protective suit Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Protective measures	:	Always have on hand a first-aid kit, together with proper instructions. Wear suitable gloves and eye/face protection. When using do not eat, drink or smoke.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	solid
Form	:	granular
Color	:	white
Odor	:	Faint odour
Odor Threshold	:	not determined
pH	:	8.4 (1% solution in water)

Melting point/ range	:	Not available for this mixture.
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	The product is not flammable.
Self-ignition	:	207 °C
Upper explosion limit / Upper flammability limit	:	Not available for this mixture.
Lower explosion limit / Lower flammability limit	:	Not available for this mixture.
Vapor pressure	:	Not available for this mixture.
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Relative vapor density	:	Not applicable
Density	:	0.4 g/cm3 loose 0.44 g/cm3 Tap density
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The product is not oxidizing.

10. STABILITY AND REACTIVITY

Chemical stability and possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Dust may form explosive mixture in air.
Conditions to avoid	:	Heat, flames and sparks. Avoid dust formation.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Skin contact
Inhalation

Health hazard information

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : LD50 (Rat): 550 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: (Data on the product itself)
Information source: Internal study report

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Acute oral toxicity : LD50 (Rat, male and female): 281 - 291 mg/kg
Method: OECD Test Guideline 420
Symptoms: ataxia, Tremors, Diarrhea, clonic convulsions

GLP: yes

LD50 (Rat, female): 179 mg/kg
Method: OECD Test Guideline 401
Target Organs: Nervous system
Symptoms: hypoactivity, Tremors, ataxia, Fatality
GLP: yes

Acute inhalation toxicity : LC50 (Rat, female): 4.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: nasal discharge, lethargy
GLP: yes

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

Silicon dioxide:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC0 (Rat, male and female): > 0.14 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: Based on data from similar materials
no mortality

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

kaolin:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

LD50: > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): 36 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

LD50: > 2,000 mg/kg

Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

β-D-Fructofuranosyl-α-D-glucopyranoside:

Acute oral toxicity : LD50 (Rat): 29,700 mg/kg

sodium dodecyl sulphate:

Acute oral toxicity : LD50 (Rat, male and female): 1,200 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, male): 1,427 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, female): 977 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes
Remarks	:	(Data on the product itself) Information source: Internal study report

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Result	:	slight irritation
GLP	:	yes

Silicon dioxide:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

kaolin:

Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Remarks	:	No data available

sodium dodecyl sulphate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	72 h
Method	:	OECD Test Guideline 405
GLP	:	yes
Remarks	:	(Data on the product itself) Information source: Internal study report

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Species	:	Rabbit
Result	:	slight irritation
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
GLP	:	yes
Remarks	:	Product dust may be irritating to eyes, skin and respiratory system.

Silicon dioxide:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

kaolin:

Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Result	:	Eye irritation

sodium dodecyl sulphate:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405

Respiratory or skin sensitization

Respiratory sensitization

Based on available data, the classification criteria are not met.

Skin sensitization

Based on available data, the classification criteria are not met.

Product:

Test Type	:	Local lymph node test
Species	:	mice
Method	:	OECD Test Guideline 429
Result	:	Did not cause sensitization on laboratory animals.
GLP	:	yes
Remarks	:	(Data on the product itself) Information source: Internal study report

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Species	:	Guinea pig
Result	:	May cause sensitization by skin contact.

Test Type	:	Maximization Test
Species	:	Guinea pig
Assessment	:	May cause sensitization by skin contact.
Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	May cause sensitization by skin contact.
GLP	:	yes

kaolin:

Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitization.

sodium dodecyl sulphate:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

Carcinogenicity

Based on available data, the classification criteria are not met.

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Species	:	Rat, female
Application Route	:	Oral
Exposure time	:	24 m
	:	2.13 mg/kg bw/day
Result	:	negative
Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Silicon dioxide:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	103 weeks
Method	:	OECD Test Guideline 453
Result	:	negative
Remarks	:	Based on data from similar materials

sodium dodecyl sulphate:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	2 Years
NOAEL	:	1,125
LOAEL	:	> 1,125
Result	:	negative

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Genotoxicity in vitro	:	Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative

Test Type: gene mutation test
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity- Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Silicon dioxide:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Species: Rat (male)
Application Route: Inhalation
Result: negative
Remarks: Based on data from similar materials

kaolin:

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Remarks: No data available

sodium dodecyl sulphate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Escherichia coli
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: negative

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Mouse (male and female)
Application Route: Oral
Result: negative

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Effects on fertility : Test Type: Two-generation study
Species: Rat
Result: Animal testing did not show any effects on fertility.

Effects on fetal development : Species: Rabbit
General Toxicity Maternal: NOEL: 500 mg/kg bw/day
Developmental Toxicity: NOEL: 500 mg/kg bw/day
Method: EPA OPP 83-3

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.
Animal testing did not show any effects on fetal development.

Silicon dioxide:

Effects on fertility : Species: Rat
General Toxicity Parent: NOAEL: 1.5 mg/kg bw/day
Fertility: NOAEL: > 6.9 mg/kg body weight

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 2 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 2 mg/kg bw/day
Symptoms: Reduced fetal weight., Reduced number of viable fetuses.

Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Oral
General Toxicity Maternal: NOAEL: 500 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 500 mg/kg bw/day
Symptoms: Reduced fetal weight., fused or incompletely ossified sternebrae

kaolin:

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

sodium dodecyl sulphate:

Effects on fertility : Test Type: Two-generation study
Species: Rat
Application Route: Oral
General Toxicity Parent: NOAEL: 300 mg/kg body weight
General Toxicity F1: NOAEL: 300 mg/kg body weight
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: Oral Duration of Single Treatment: 6 - 15 d General Toxicity Maternal: NOEL: 250 mg/kg body weight Developmental Toxicity: NOEL: 250 mg/kg body weight Result: negative Remarks: Based on data from similar materials

STOT-single exposure

May cause damage to organs (Nervous system).

Product:

Target Organs	:	Nervous system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 2.

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Target Organs	:	Central nervous system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 2.

kaolin:

Remarks	:	No significant adverse effects were reported

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Target Organs	:	Blood, Nervous system
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

kaolin:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

sodium dodecyl sulphate:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Species	:	Rat, female
NOAEL	:	1.7 mg/kg
LOAEL	:	4.1 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Method	:	OECD Test Guideline 408
GLP	:	yes
Target Organs	:	Blood

Silicon dioxide:

Species	:	Rat, male and female
NOAEL	:	2,500 mg/kg
Application Route	:	Oral
Exposure time	:	13 weeks
Method	:	OECD Test Guideline 408
Remarks	:	Based on data from similar materials

Species	:	Rat, male and female
NOAEL	:	1.3 - 10 mg/l
LOAEL	:	5.9 mg/l
Application Route	:	Inhalation
Exposure time	:	13 weeks
Method	:	OECD Test Guideline 413
Remarks	:	Based on data from similar materials

kaolin:

Remarks	:	No data available

sodium dodecyl sulphate:

Species	:	Rat
NOAEL	:	488 mg/kg
LOAEL	:	1,016 mg/kg
Application Route	:	Oral - feed
Exposure time	:	13 weeks

Aspiration toxicity

Based on available data, the classification criteria are not met.

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.67 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes Remarks: (Data on the product itself) LC50 (Oncorhynchus mykiss (rainbow trout)): , > 0.187 mg/l mg a.i./kg Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.3 mg/l Exposure time: 48 h Test Type: Static renewal test Method: OECD Test Guideline 202 Remarks: (Data on the product itself) EC50 (Daphnia magna (Water flea)): , 0.0919 mg a.i./kg Exposure time: 48 h Test Type: Static renewal test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.67 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): > 100 mg/kg Method: OECD Test Guideline 222 Remarks: (Data on the product itself) LC50 (Eisenia fetida (earthworms)): > 100 mg/kg Exposure time: 28 d Method: OECD Test Guideline 222 Remarks: (Data on the product itself)

Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): 508 mg/kg End point: Acute oral toxicity Method: US EPA Test Guideline OPP 71-1 NOEL (Apis mellifera L.): 0.085 µg a.i./bee Exposure time: 72 h End point: Acute oral toxicity Method: OECD Test Guideline 213 LD50 (Apis mellifera L.): 0.505 µg a.i./bee Exposure time: 72 h End point: Acute oral toxicity Method: OECD Test Guideline 213 NOEL (Apis mellifera L.): 0.4 µg a.i./bee Exposure time: 72 h End point: Acute contact toxicity Method: OECD Test Guideline 214 LD50 (Apis mellifera L.): 1.21 µg a.i./bee Exposure time: 72 h End point: Acute contact toxicity Method: OECD Test Guideline 214

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): >0.17 Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203 GLP: yes LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.90 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.17 mg a.i./kg Exposure time: 48 h Test Type: flow-through test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (algae)): 0.0793 mg/l Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201 GLP: yes

M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.15 mg/l Exposure time: 90 d Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes NOEC (Pimephales promelas (fathead minnow)): 0.0675 mg/l Exposure time: 28 d Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes LOEL (Cyprinodon variegatus (sheepshead minnow)): 0.0417 mg/l Exposure time: 35 d Test Type: flow-through test Method: US EPA Test Guideline OPP 72-4 NOEL (Cyprinodon variegatus (sheepshead minnow)): 0.0169 mg/l Exposure time: 35 d Test Type: flow-through test Method: US EPA Test Guideline OPP 72-4
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.09 mg/l Exposure time: 21 d Method: OECD Test Guideline 202 GLP: yes NOEC (Daphnia magna (Water flea)): 0.0351 mg/l Exposure time: 21 d Test Type: Static renewal test Method: OECD Test Guideline 211 GLP: yes
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 29.2 mg/kg Exposure time: 56 d End point: reproduction Method: OECD Test Guideline 222 GLP: yes NOEC (Eisenia fetida (earthworms)): 94.5 mg/kg Exposure time: 28 d Method: OECD Test Guideline 222 GLP: yes LC50 (Eisenia fetida (earthworms)): > 94.5 mg/kg

Exposure time: 28 d
Method: OECD Test Guideline 222
GLP: yes

NOEC (Eisenia fetida (earthworms)): < 62.5 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207
GLP: yes

LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207
GLP: yes

Toxicity to terrestrial organisms : NOEL (Apis mellifera (bees)): 0.048 µg/bee
End point: Acute contact toxicity
Method: OECD Test Guideline 214

NOEL (Apis mellifera (bees)): 0.163 µg/bee
End point: Acute oral toxicity
Method: OECD Test Guideline 213

LD50 (Apis mellifera (bees)): 0.232 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Method: OECD Test Guideline 213

LD50 (Apis mellifera (bees)): 0.068 µg/bee
Exposure time: 48 h
End point: Acute contact toxicity
Method: OECD Test Guideline 214

LD50 (Colinus virginianus (Bobwhite quail)): 98 mg/kg
Method: US EPA Test Guideline OPP 71-1
GLP: yes

NOEC (Anas platyrhynchos (Mallard duck)): 720 ppm
Exposure time: 147 d
End point: Reproduction Test
Method: OECD Test Guideline 206
GLP: yes

NOEC (Colinus virginianus (Bobwhite quail)): 144 ppm
Exposure time: 147 d
End point: Reproduction Test
Method: OECD Test Guideline 206

NOEC (Anas platyrhynchos (Mallard duck)): 562 ppm
Exposure time: 5 d
Method: US EPA Test Guideline OPP 71-2
Remarks: Dietary

LC50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm

Exposure time: 5 d
Method: US EPA Test Guideline OPP 71-2
Remarks: Dietary

NOEC (Colinus virginianus (Bobwhite quail)): 316 ppm
Exposure time: 5 d
Method: US EPA Test Guideline OPP 71-1
Remarks: Dietary

LC50 (Colinus virginianus (Bobwhite quail)): 808 ppm
Exposure time: 5 d
Method: US EPA Test Guideline OPP 71-2
Remarks: Dietary

Silicon dioxide:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 24 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	NOELR (Desmodesmus subspicatus (green algae)): 10,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

kaolin:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chron-	:	Remarks: No data available

ic toxicity)

Toxicity to microorganisms : Remarks: No data available

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Toxicity to fish : LC50 (Zebra fish): > 10 - 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

β-D-Fructofuranosyl-α-D-glucopyranoside:

Toxicity to fish : Remarks: No data available

sodium dodecyl sulphate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 29 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203

LC50 (Fish): 3.6 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Ceriodaphnia dubia (water flea)): 5.55 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 53 mg/l
Exposure time: 72 h

Test Type: static test

NOEC (Desmodesmus subspicatus (green algae)): 30 mg/l
Exposure time: 72 h
Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): > 1.357 mg/l
Exposure time: 42 d
Test Type: flow-through test
Method: No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 0.88 mg/l
Exposure time: 7 d
Test Type: flow-through test

Toxicity to microorganisms : EC50 (activated sludge): 135 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition

Persistence and degradability

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Biodegradability : Result: Not readily biodegradable.

Silicon dioxide:

Biodegradability : Result: Not biodegradable
Remarks: Based on data from similar materials

kaolin:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

β-D-Fructofuranosyl-α-D-glucopyranoside:

Biodegradability : Remarks: No data available

sodium dodecyl sulphate:

Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Concentration: 20 mg/l
Result: Readily biodegradable.
Biodegradation: 95 %

Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 77.3 Exposure time: 21 d Method: OECD Test Guideline 305
Partition coefficient: n-octanol/water	:	log Pow: 4.52 (20 °C) Method: OECD Test Guideline 107 GLP: yes

Silicon dioxide:

Bioaccumulation	:	Bioconcentration factor (BCF): 3.16 Remarks: Based on data from similar materials

kaolin:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	Remarks: Not applicable

sodium dodecyl sulphate:

Partition coefficient: n-octanol/water	:	log Pow: -2.03 (20 °C)

Mobility in soil

Components:

(S)-7-chloro-2-[methoxycarbonyl-(4-trifluoromethoxyphenyl)-carbamoyl]-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylic acid, methyl ester**:**

Distribution among environmental compartments	:	Koc: 4483 ml/g, log Koc: 3.65 Remarks: Low mobility in soil. Kd: 46 - 150

kaolin:

Distribution among environmental compartments	:	Remarks: Low mobility in soil.

Other adverse effects

Product:

Additional ecological information	:	See product label for additional application instructions relating to environmental precautions. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

Disposal precautions

Dispose of contents and container according to wastes control act.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Indoxacarb)
Class	:	9
Subsidiary risk	:	ENVIRONM.
Packing group	:	III
Labels	:	9 (ENVIRONM.)
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (Indoxacarb)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passen-	:	956

ger aircraft)
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Indoxacarb)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

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

Not applicable for product as supplied.

Domestic regulation

Refer to section 15 for specific national regulation.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

National regulatory information

Regulation under the Occupational Safety and Health Act

Harmful Substances Prohibited from Manufacturing

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Harmful Agents to be kept below Occupational Exposure Limits

Chemical name	CAS-No.
Silica (Amorphous precipitated silica) Silica (Amorphous silicagel)	112926-00-8
Kaoline	1332-58-7
Sucrose	57-50-1

Harmful Agents Required to be kept below Permission Levels

Not applicable

Hazardous substances requiring management

Chemical name	CAS-No.	Threshold limits (%)
Aluminum and its compounds	1332-58-7	>= 1 %

Special Management Materials

Not applicable

Controlled Substances Subject to Environment Monitoring

Chemical name	CAS-No.	Threshold limits (%)
Silica	112926-00-8	
Mineral dusts	112926-00-8	

Controlled Substances Subject to Health Examination

Chemical name	CAS-No.	Threshold limits (%)
Mineral dusts	112926-00-8	
Aluminum and its compounds	1332-58-7	>= 1 %

Hazardous Substances Subject to Process Safety Management (PSM) Reporting ObligationK-OSHA Hazardous Substances (Occupational Safety and Health Regulations, Table 1)

Category
Acute toxic substances (oral)
Acute toxic substances (dermal)

K-OSHA Hazardous Substances (Occupational Safety and Health Regulations, Table 9)

Category	Manufacturing or handling quantity
Acute toxic substances (oral)	100 kilogram
Acute toxic substances (dermal)	100 kilogram

Regulation under the Chemicals Control Act

Toxic Chemicals

Chemical name	CAS-No.	NIER No.	Threshold limits (%)
Indoxacarb	173584-44-6	98-1-486	>= 0 %

Restricted Chemicals

Not applicable

Prohibited Chemicals

Not applicable

Toxic Release Inventory

Chemical name	CAS-No.	Group	Threshold limits (%)
Aluminium and its compounds	1332-58-7	Group II	>= 1 %

Accident Precaution Chemicals

Not applicable

Dangerous Substances Safety Management Act

Not Applicable to Dangerous Materials

Waste Control Act

Industrial general wastes
Follow article 13 of the act to dispose the product waste

Other requirements in domestic and other countries

The ingredients of this product are reported in the following inventories:

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC	:	Not in compliance with the inventory
DSL	:	Not applicable
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

16. OTHER INFORMATION

Issuing date	:	2018/03/01

Revision number and date

Number of Revision	:	1.1
Revision Date	:	2025/03/06
Date format	:	yyyy/mm/dd

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
KR OEL	:	Harmful Agents to be kept below Occupational Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
KR OEL / TWA	:	Time Weighted Average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International

Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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