SAFETY DATA SHEET
according to the Globally Harmonized System

AUTHORITY NXT

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	20.05.2025	50002174	Date of first issue: 25.03.2020

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	AUTHORITY NXT
Other means of identification	:	CLOMAZONE + SULFENTRAZONE 30/28 W/W% WP

Manufacturer or supplier's details

Company	:	FMC India Private Limited
Address	:	TCG Financial Centre, 2nd Floor, C-53, Bandra Kurla Complex, Bandra (E), Mumbai, Maharashtra-400098 India
E-mail address	:	SDS-Info@fmc.com
Emergency telephone	:	022 6704 5504/5404 000-800-100-7141 (CHEMTREC)
Medical Emergency Number	:	022 6704 5504/5404

Recommended use of the chemical and restrictions on use

Recommended use	:	Herbicide
Restrictions on use	:	Use as recommended by the label.

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

GHS Classification

Acute toxicity (Oral)	:	Category 5
Acute toxicity (Inhalation)	:	Category 4
Acute toxicity (Dermal)	:	Category 5
Serious eye damage/eye irritation	:	Category 2A
Reproductive toxicity	:	Category 2

Specific target organ toxicity - repeated exposure	:	Category 2 (hematopoietic system, Nervous system)
Specific target organ toxicity - repeated exposure (Inhalation)	:	Category 2 (inner ear)
Short-term (acute) aquatic hazard	:	Category 3
Long-term (chronic) aquatic hazard	:	Category 1

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements :
H303 + H313 May be harmful if swallowed or in contact with skin.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (hematopoietic system, Nervous system) through prolonged or repeated exposure.
H373 May cause damage to organs (inner ear) through prolonged or repeated exposure if inhaled.
H402 Harmful to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P203 Obtain, read and follow all safety instructions before use.
P260 Do not breathe dust.
P264+P265 Wash hands thoroughly after handling. Do not touch eyes.
P271 Use only outdoors or with adequate ventilation.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P337 + P317 IF SWALLOWED or if eye irritation persists: Get medical help.
P302 + P352 + P317 IF ON SKIN: Wash with plenty of water. Get medical help.
P304 + P340 + P317 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.
P318 IF exposed or concerned, get medical advice.
P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
clomazone (ISO)	81777-89-1	>= 25 - < 30
Sulfentrazone	122836-35-5	>= 25 - < 30
sodium carbonate	497-19-8	>= 1 - < 10
sodium dodecylbenzenesulfonate	25155-30-0	>= 2.5 - < 3
toluene	108-88-3	>= 1 - < 2.5

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.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Wash off with soap and water.
Get medical attention if irritation develops and persists.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Induce vomiting immediately and call a physician.
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.

Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed	:	May be harmful if swallowed or in contact with skin. Causes serious eye irritation. Harmful if inhaled. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.
Notes to physician	:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	:	High volume water jet
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 Sulfur oxides Nitrogen oxides (NOx) Carbon oxides Hydrogen cyanide Hydrogen chloride
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	:	Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust.
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. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. 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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	Keep in a dry place. 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
toluene	108-88-3	TWA	100 ppm 375 mg/m3	IN OEL
		STEL	150 ppm 560 mg/m3	IN OEL
		TWA	20 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
toluene	108-88-3	Toluene	In blood	Prior to last shift of workweek	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As	0.03 mg/l	ACGIH BEI

				soon as possible after exposure ceases)		

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Particulates type

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.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

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.

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 : powder

Color : off-white

pH : 6 - 7
(at 1% suspension)

Melting point/freezing point : No data available

Boiling point/boiling range	:	No data available
Flammability (solid, gas)	:	Not expected to be ignitable
Self-ignition	:	No data available
Relative density	:	0.98 - 0.995
Bulk density	:	0.29 - 0.32 kg/m3 Pour density 0.38 - 0.42 kg/m3 Tap density
Solubility(ies) Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not applicable
Viscosity Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
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.
Incompatible materials	:	Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

May be harmful if swallowed or in contact with skin.
Harmful if inhaled.

Product:

Acute oral toxicity : LD50(Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50(Rat, male and female): > 3.04 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50(Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402

Components:

clomazone (ISO):

Acute oral toxicity : LD50 (Rat, female): 768 mg/kg
Method: OECD Test Guideline 425

LD50 (Rat, female): 300 - 2,000 mg/kg
Method: OECD Test Guideline 423
Target Organs: Liver
Assessment: The component/mixture is moderately toxic after single ingestion.

LD50 (Rat, female): 1,564 mg/kg
Symptoms: ataxia

Acute inhalation toxicity : LC50 (Rat): > 5.02 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

LC50 (Rat, female): 4.23 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81 - 3
Symptoms: Breathing difficulties

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

Sulfentrazone:

Acute oral toxicity : LD50 (Rat, female): 2,689 mg/kg
Symptoms: ataxia, clonic convulsions, Fatality
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.13 mg/l

Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81 - 3
Symptoms: ataxia, Breathing difficulties
GLP: yes
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: EPA OPP 81-2
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.

sodium carbonate:

Acute oral toxicity : LD50 (Rat, male and female): 2,800 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 2.3 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Target Organs: Skin
Symptoms: Erythema

sodium dodecylbenzenesulfonate:

Acute oral toxicity : LD50 (Rat, male and female): 1,080 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

toluene:

Acute oral toxicity : LD50 (Rat): 5,580 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 25.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor

LC50 (Rat, female): 30 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : (Rabbit): 12,267 mg/kg

Skin corrosion/irritation

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

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	May cause skin irritation in susceptible persons.

Components:

clomazone (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Result	:	slight or no skin irritation.

Sulfentrazone:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	EPA OPP 81-5
Result	:	No skin irritation
GLP	:	yes

sodium carbonate:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

sodium dodecylbenzenesulfonate:

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

toluene:

Species	:	Rabbit
Assessment	:	Repeated exposure may cause skin dryness or cracking.
Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Eye irritation

Remarks : May cause irreversible eye damage.

Components:

clomazone (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
Result	:	Slight or no eye irritation
GLP	:	yes

Sulfentrazone:

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	EPA OPP 81-4
Result	:	No eye irritation
GLP	:	yes

sodium carbonate:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

sodium dodecylbenzenesulfonate:

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

toluene:

Species	:	Rabbit
Result	:	No eye irritation

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Product:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.

Components:

clomazone (ISO):

Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.
Method	:	US EPA Test Guideline OPP 81-6
Result	:	Not a skin sensitizer.

Sulfentrazone:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

sodium dodecylbenzenesulfonate:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitization.

toluene:

Test Type	:	Maximization Test
Species	:	Guinea pig
Result	:	Not a skin sensitizer.

Germ cell mutagenicity

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

Components:

clomazone (ISO):

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	:	Test Type: Cytogenetic assay Species: Rat Method: OECD Test Guideline 473 Result: negative

Sulfentrazone:

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative Test Type: Mouse lymphoma assay

Test system: mouse lymphoma cells
Metabolic activation: Metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

sodium carbonate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

sodium dodecylbenzenesulfonate:

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

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

toluene:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Rat
Result: negative

Carcinogenicity

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

Components:

clomazone (ISO):

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	2 Years
Result	:	negative

Species	:	Mouse
Method	:	OECD Test Guideline 453
Result	:	negative

Sulfentrazone:

Species	:	Rat, male and female
Application Route	:	Ingestion
Exposure time	:	2 Years
Result	:	negative

Species	:	Mouse, male and female
Application Route	:	Ingestion
Exposure time	:	18 month(s)
Result	:	negative

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

sodium dodecylbenzenesulfonate:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	2 years
Result	:	negative

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Components:

clomazone (ISO):

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: Oral Symptoms: Maternal effects. Result: negative Test Type: Embryo-fetal development Species: Rabbit

Application Route: Oral
Symptoms: Maternal effects.
Result: negative

Sulfentrazone:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
General Toxicity Parent: NOEL: 13.7 - 16.2 mg/kg bw/day
General Toxicity F1: NOEL: 13.7 - 16.2 mg/kg bw/day
Symptoms: Maternal effects.

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOEL: 25 mg/kg bw/day
Developmental Toxicity: NOEL: 10 mg/kg bw/day
Method: EPA OPP 83-3

Test Type: Embryo-fetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: LOAEL: 50 mg/kg bw/day
Developmental Toxicity: LOAEL F1: 25 mg/kg bw/day
Symptoms: Skeletal malformations.
Target Organs: spleen
Method: EPA OPP 83-3

sodium carbonate:

Effects on fetal development : Species: Rat
Application Route: Oral
Dose: 2.45, 11.4, 52.9, 245 milligram per kilogram
Duration of Single Treatment: 6 - 15 d
General Toxicity Maternal: NOAEL: > 245 mg/kg body weight
Teratogenicity: NOAEL: > 245 mg/kg body weight
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

sodium dodecylbenzenesulfonate:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Species: Rat
Application Route: Oral
Method: OECD Test Guideline 422
Result: negative

toluene:

Effects on fetal development	:	Species: Rat Application Route: Inhalation Result: Teratogenic effects. Remarks: Adverse developmental effects were observed
Reproductive toxicity - Assessment	:	Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT-single exposure

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

Components:

Sulfentrazone:

Remarks	:	No significant adverse effects were reported

sodium dodecylbenzenesulfonate:

Assessment	:	May cause respiratory irritation.

toluene:

Assessment	:	May cause drowsiness or dizziness.

STOT-repeated exposure

May cause damage to organs (hematopoietic system, Nervous system) through prolonged or repeated exposure.
May cause damage to organs (inner ear) through prolonged or repeated exposure if inhaled.

Components:

Sulfentrazone:

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

sodium carbonate:

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

toluene:

Routes of exposure	:	Inhalation
Target Organs	:	inner ear
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

clomazone (ISO):

Species	:	Rat, male and female
NOEL	:	1000 ppm
Application Route	:	Oral
Exposure time	:	90 days
Symptoms	:	increased liver weight

Species	:	Rat
LOAEL	:	400 mg/kg
Exposure time	:	90 d
Method	:	OECD Test Guideline 408
Symptoms	:	Liver effects

Sulfentrazone:

Species	:	Rat, male
NOAEL	:	19.9 mg/kg
LOAEL	:	65.8 mg/kg
Application Route	:	Oral - feed
Exposure time	:	90-days
GLP	:	yes
Target Organs	:	hematopoietic system

Species	:	Mouse, male
NOAEL	:	60 mg/kg
LOAEL	:	108.4 mg/kg
Application Route	:	Oral - feed
Exposure time	:	90-days
Target Organs	:	hematopoietic system

Species	:	Dog, male
NOAEL	:	10 mg/kg
LOAEL	:	28 mg/kg
Application Route	:	Oral - feed
Exposure time	:	90-days
Target Organs	:	hematopoietic system, Liver

sodium carbonate:

Species	:	Rat, male and female
NOAEL	:	> 0.01 mg/kg
Application Route	:	inhalation (dust/mist/fume)
Test atmosphere	:	dust/mist

sodium dodecylbenzenesulfonate:

Species	:	Rat, male and female
NOAEL	:	100 mg/kg
LOAEL	:	200 mg/kg
Application Route	:	Oral

Exposure time	:	14 d
Method	:	OECD Test Guideline 422
Species	:	Rat, male
NOAEL	:	< 286 mg/kg
LOAEL	:	286 mg/kg

toluene:

Species	:	Rat
NOAEL	:	625 mg/kg
Application Route	:	Oral
Symptoms	:	central nervous system effects
Species	:	Rat
NOAEL	:	0.098 mg/l
Application Route	:	Inhalation
Test atmosphere	:	vapor
Species	:	Rat
LOAEL	:	2.261 mg/l
Application Route	:	Inhalation
Test atmosphere	:	vapor

Aspiration toxicity

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

Components:

clomazone (ISO):

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

Sulfentrazone:

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

toluene:

May be fatal if swallowed and enters airways.

Neurological effects

Components:

Sulfentrazone:

Neurotoxity observed in animals studies

Further information

Product:

Remarks	:	No data available

Components:

clomazone (ISO):

Remarks : When fed to animals, clomazone caused decreased activity, tearing eyes, bleeding from the nose and incoordination.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 38.17 mg/l
Exposure time: 96 h
Test Type: Static renewal test
Method: OECD Test Guideline 203

Toxicity to terrestrial organisms : LD50: > 2,000 mg/kg
End point: Acute oral toxicity
Species: Columba livia (feral pigeon)
Method: OECD Test Guideline 223

LD50: > 2,000 mg/kg
End point: Acute oral toxicity
Species: chicken
Method: OECD Test Guideline 223

LD50: > 200 µg/bee
Exposure time: 48 h
End point: Acute contact toxicity
Species: Honey Bee
Method: OECD Test Guideline 214

LD50: > 200 µg/bee
Exposure time: 48 h
End point: Acute oral toxicity
Species: Honey Bee
Method: OECD Test Guideline 213

Components:

clomazone (ISO):

Toxicity to fish : LC50 (Menidia beryllina (Silverside)): 6.3 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): > 45 mg/l
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 34 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 40.8 mg/l

aquatic invertebrates		Exposure time: 48 h EC50 (Daphnia): 5.2 mg/l Exposure time: 48 h EC50 (Daphnia magna (Water flea)): 12.7 mg/l Exposure time: 48 h Test Type: static test EC50 (Mysidopsis bahia (opossum shrimp)): 9.8 mg/l Exposure time: 48 h LC50 (Americamysis bahia (mysid shrimp)): 0.57 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to algae/aquatic plants	:	EbC50 (Selenastrum capricornutum (green algae)): 2 mg/l Exposure time: 72 h ErC50 (Selenastrum capricornutum (green algae)): 4.1 mg/l Exposure time: 72 h ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.136 mg/l Exposure time: 120 h EC50 (Lemna gibba (duckweed)): 13.9 mg/l Exposure time: 7 d NOEC (Navicula pelliculosa (Freshwater diatom)): 0.05 mg/l End point: Growth rate Exposure time: 120 h NOEC (algae): 0.05 mg/l Exposure time: 96 h EC50 (Lemna gibba (duckweed)): 13.9 mg/l Exposure time: 7 d EC50 (algae): 0.136 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 2.3 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test NOEC: 2.29 mg/l Exposure time: 57 d Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 2.2 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0.032 mg/l Exposure time: 28 d Species: Americamysis bahia (mysid shrimp) Test Type: flow-through test NOEC: 1.25 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: static test
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to soil dwelling organisms	:	LC50: 156 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 2,510 mg/kg Species: Anas platyrhynchos (Mallard duck) LC50: > 5620 ppm Species: Anas platyrhynchos (Mallard duck) Remarks: Dietary LD50: > 2000 Species: Coturnix japonica (Japanese quail) NOEC: 94 mg/kg End point: Reproduction Test Species: Colinius virginianus LC50: > 85.29 Species: Apis mellifera (bees) LC50: > 100 Species: Apis mellifera (bees) Remarks: Contact

Sulfentrazone:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l Exposure time: 96 h Test Type: flow-through test Method: EPA OPP 72-1 LC50 (Lepomis macrochirus (Bluegill sunfish)): 93.8 mg/l Exposure time: 96 h Test Type: flow-through test Method: EPA OPP 72-1

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 60.4 mg/l Exposure time: 48 h Test Type: flow-through test NOEC (Daphnia magna (Water flea)): 14.1 mg/l Exposure time: 48 h Test Type: flow-through test
Toxicity to algae/aquatic plants	:	EC50 (algae): 32.8 mg/l Exposure time: 72 h EC50 (Pseudokirchneriella subcapitata (green algae)): 0.031 mg/l Exposure time: 120 h EC50 (Lemna gibba (duckweed)): 0.0288 mg/l Exposure time: 14 d EC50 (Navicula pelliculosa (Diatom)): 0.042 mg/l Exposure time: 120 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 5.9 mg/l Exposure time: 21 d Species: Fish
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.51 mg/l Exposure time: 21 d Species: Crustaceans
Toxicity to terrestrial organisms	:	LD50: > 5,620 ppm End point: Acute oral toxicity Species: Anas platyrhynchos (Mallard duck) NOEL: 3,160 ppm End point: Acute oral toxicity Species: Anas platyrhynchos (Mallard duck) LD50: > 5,620 ppm End point: Acute oral toxicity Species: Colinus virginianus (Bobwhite quail) NOEL: 5,620 ppm End point: Acute oral toxicity Species: Colinus virginianus (Bobwhite quail) NOEL: > 100 ppm End point: Reproduction Test Species: Colinus virginianus (Bobwhite quail) NOEL: > 100 ppm End point: Reproduction Test Species: Anas platyrhynchos (Mallard duck)

LD50: > 25 µg/bee
End point: Acute oral toxicity
Species: Apis mellifera (bees)

LD50: > 200 µg/bee
End point: Acute contact toxicity
Species: Apis mellifera (bees)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

sodium carbonate:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 300 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia (water flea)): 200 mg/l
Exposure time: 48 h
Test Type: semi-static test

sodium dodecylbenzenesulfonate:

Toxicity to fish : LC50 (Cyprinodon sp. (minnow)): 4.5 - 6.4 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.3 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Lemna minor (duckweed)): 2.7 mg/l
Exposure time: 7 d
Method: OECD Test Guideline 221

Toxicity to microorganisms : EC50 (activated sludge): 500 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 3.2 mg/l
Exposure time: 30 d
Species: Fish

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.65 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

toluene:

Toxicity to fish	:	LC50 (Fish): 5.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50: 3.78 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	NOEC (Skeletonema costatum (marine diatom)): 10 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Bacteria): 134 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 1.4 mg/l Species: Oncorhynchus kisutch (coho salmon)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.74 mg/l Exposure time: 7 d Species: Ceriodaphnia sp.

Persistence and degradability

Components:

clomazone (ISO):

Biodegradability	:	Result: Not readily biodegradable. Remarks: Substance/product is moderately persistent in the environment. Primary degradation half-lives vary with circumstances, from a few weeks to a few months in aerobic soil and water.

Sulfentrazone:

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life (DT50): 2.22 - 9.56 h
Photodegradation	:	Remarks: Decomposes rapidly in contact with light.

sodium carbonate:

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

sodium dodecylbenzenesulfonate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: > 75 % Exposure time: 11 d Method: OECD Test Guideline 301E

toluene:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

clomazone (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 27 - 40
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 2.61 - 2.69 (20 - 21 °C)
pH: 4 - 10
Method: Regulation (EC) No. 440/2008, Annex, A.8

Sulfentrazone:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
GLP: yes
Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : Pow: 9.8
pH: 7

sodium carbonate:

Bioaccumulation : Remarks: Does not bioaccumulate.

sodium dodecylbenzenesulfonate:

Bioaccumulation : Exposure time: 3 d
Bioconcentration factor (BCF): 130

Partition coefficient: n-octanol/water : log Pow: 1.96

toluene:

Bioaccumulation : Bioconcentration factor (BCF): 90

Partition coefficient: n-octanol/water : log Pow: 2.73 (20 °C)

Mobility in soil

Components:

clomazone (ISO):

Distribution among environmental compartments : Koc: 300 ml/g, log Koc: 2.47
Remarks: Moderately mobile in soils

Sulfentrazone:

Mobility : Medium: Water

Remarks: Predicted distribution to environmental compartments

Distribution among environmental compartments : Koc: 43 ml/g, log Koc: 1.63
Remarks: Highly mobile in soils

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Clomazone, Sulfentrazone)
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. (Clomazone, Sulfentrazone)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo	:	956

aircraft)
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code

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

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

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

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

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	:	This product contains the following components that are not on the Canadian DSL nor NDSL. clomazone (ISO) Sulfentrazone o-Chlorobenzaldehyde
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

Revision Date	:	20.05.2025
Date format	:	dd.mm.yyyy

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
IN OEL	:	India. Permissible levels of certain chemical substances in work environment.
ACGIH / TWA	:	8-hour, time-weighted average
IN OEL / TWA	:	Time-Weighted Average Concentration (TWA) (8 hrs.)
IN OEL / STEL	:	Short-term exposure Limit STEL (15 min)

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 Recom-

mendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to insure that this document is the most current available from FMC Corporation. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

IN / EN