We create chemistry

Safety Data Sheet
Armezon Pro

1. Identification

Product identifier used on the label

Armezon Pro

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, herbicide

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Agricultural Solutions US LLC
2 TW Alexander Drive
Research Triangle Park, NC 27713
USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 639617
Registration number: EPA Registration number: 7969-372

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Asp. Tox.	1	Aspiration hazard
Skin Corr./Irrit.	2	Skin corrosion/irritation
Skin Sens.	1	Skin sensitization

Carc.	2	Carcinogenicity
Repr.	1B (unborn child)	Reproductive toxicity
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H304	May be fatal if swallowed and enters airways.
H351	Suspected of causing cancer.
H360	May damage the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P273	Avoid release to the environment.
P201	Obtain special instructions before use.
P261	Avoid breathing mist or vapour or spray.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or physician.
P308 + P313	IF exposed or concerned: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P391	Collect spillage.
P332 + P313	If skin irritation occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P331	Do NOT induce vomiting.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Topramezone technical
CAS Number: 210631-68-8
Content (W/W): 1.12 %
Synonym: Topramezone

dimethenamid-P
CAS Number: 163515-14-8
Content (W/W): 56.25 %
Synonym: Acetamide, 2-chloro-N-(2,4-dimethyl-3-thienyl)-N-[(1S)-2-methoxy-1-methylethyl]-

solvent naphtha
CAS Number: 64742-94-5
Content (W/W): 10.0 - 15.0%
Synonym: Solvent naphtha, petroleum, heavy arom.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts
CAS Number: 68953-96-8
Content (W/W): 3.0 - 5.0%
Synonym: Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salt

Naphthalene, 2-methyl-
CAS Number: 91-57-6
Content (W/W): 1.0 - 3.0%
Synonym: No data available.

Sorbitanmonooleate with EO
CAS Number: 9005-65-6
Content (W/W): 1.0 - 3.0%
Synonym: No data available.

Naphthalene, 1-methyl-
CAS Number: 90-12-0
Content (W/W): 1.0 - 3.0%
Synonym: No data available.

naphthalene
CAS Number: 91-20-3
Content (W/W): 1.0 - 3.0%
Synonym: Naphthalin

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Do not give solids or liquids. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, Hydrogen chloride, nitrogen oxides, halogenated compounds, sulfur oxides
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling
Protection against fire and explosion:
The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities
Segregate from foods and animal feeds.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

naphthalene	ACGIH, US:	TWA value 10 ppm ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption
	OSHA Z1:	PEL 10 ppm 50 mg/m3 ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption

solvent naphtha	ACGIH, US:	TWA value 200 mg/m3 Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures.
	ACGIH, US:	Skin Designation Non-aerosol (total hydrocarbon vapor); Danger of cutaneous absorption
	ACGIH, US:	Skin Designation Non-aerosol (total hydrocarbon vapor); Danger of cutaneous absorption
	ACGIH, US:	TWA value 200 mg/m3 Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures.
Naphthalene, 1-methyl-	ACGIH, US:	TWA value 0.5 ppm ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption
Naphthalene, 2-methyl-	ACGIH, US:	TWA value 0.5 ppm ;
	ACGIH, US:	Skin Designation ; The substance can be absorbed through the skin.
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption

Advice on system design:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection**:**
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection**:**
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Remove contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid
Odour:	faint odour, aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	reddish
pH value:	approx. 4 - 6 (25 °C)
Melting temperature:	The product has not been tested.
boiling temperature:	> 280 °C
Flash point:	98.9 °C
Flammability:	not applicable
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	280 °C
Vapour pressure:	approx. < 0.1 kPa (25 °C) Information applies to the solvent.
Density:	approx. 1.124 g/cm3 (20 °C)
Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	The statements are based on the properties of the individual components.
Information on: dimethenamid-P	
Partitioning coefficient n-octanol/water (log Pow):	1.89
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Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	approx. 35.5 mPa.s (20 °C)
Solubility in water:	dispersible
Evaporation rate:	not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:
not fire-propagating

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
See SDS section 7 - Handling and storage.

Incompatible materials
strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Oral
Type of value: LD50
Species: rat
Value: > 2,000 mg/kg

Inhalation
Type of value: LC50
Species: rat
Value: > 5.5 mg/l

Dermal
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. Not irritating to the eyes.

Skin
Species: rabbit
Result: Irritant.

Eye
Species: rabbit
Result: non-irritant

Sensitization
Assessment of sensitization: Sensitization after skin contact possible.

Buehler test
Species: guinea pig
Result: sensitizing

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Topramezone technical
Assessment of repeated dose toxicity: Adaptive effects were observed after repeated exposure in animal studies.

Genetic toxicity
Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: naphthalene
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was mutagenic in a mammalian cell culture test system. The substance was not mutagenic in a test with mammals. Literature data.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Topramezone technical
Assessment of carcinogenicity: When given in high doses, the substance was carcinogenic in animal studies. Based on its mechanism of action, a carcinogenic potential is not expected after exposure to low doses.

Information on: naphthalene
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by inhalation, a carcinogenic effect was observed. EU-classification The substance was classified as a group 3 carcinogen by the German MAK-Commission (substances for which a suspicion of a carcinogenic potential exists). IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).
IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).

Information on: solvent naphtha
Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity
Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Information on: Topramezone technical
Assessment of reproduction toxicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Teratogenicity
Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Topramezone technical
Assessment of teratogenicity: The results of animal studies gave indication of a developmental toxic/teratogenic effects with high doses.

Other Information
Misuse can be harmful to health.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Very toxic to aquatic life with long lasting effects.

Toxicity to fish

Information on: dimethenamid-P
LC50 (96 h) 6.3 mg/l, Oncorhynchus mykiss

Information on: Topramezone technical
LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss (Directive 92/69/EEC, C.1, static) Nominal concentration.
LC50 (96 h) > 250 mg/l, Lepomis macrochirus (Directive 92/69/EEC, C.1, static) Nominal concentration.

Aquatic invertebrates

Information on: dimethenamid-P
EC50 (48 h) 12 mg/l, Daphnia magna

Information on: Topramezone technical
EC50 (96 h) 2.7 mg/l, Mysidopsis bahia (static)

Aquatic plants

Information on: dimethenamid-P
EC50 (72 h) 0.0303 mg/l (growth rate), Pseudokirchneriella subcapitata
EC10 (72 h) 0.0156 mg/l (growth rate), Pseudokirchneriella subcapitata
EC50 (14 d) 0.031 mg/l (growth rate), Lemna gibba
EC10 (14 d) 0.0064 mg/l (growth rate), Lemna gibba

Information on: Topramezone technical
No observed effect concentration (7 d) 0.001 mg/l (biomass), Lemna gibba
EC50 17.2 mg/l (biomass), Pseudokirchneriella subcapitata
EC50 0.009 mg/l (biomass), Lemna gibba

Persistence and degradability

Assessment biodegradation and elimination (H2O)
The product has not been tested. The statement has been derived from the properties of the individual components.

Assessment biodegradation and elimination (H2O)

Information on: Topramezone technical

Not readily biodegradable (by OECD criteria).

Information on: dimethenamid-P

Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential

The product has not been tested. The statement has been derived from the properties of the individual components.

Bioaccumulation potential

Information on: Topramezone technical

Bioconcentration factor: 0.69 (42 d), Lepomis macrochirus (OPPTS 850.1730 (EPA Guideline)) Does not significantly accumulate in organisms.

Information on: dimethenamid-P

No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Mobility in soil

Assessment transport between environmental compartments
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Topramezone technical

Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Information on: dimethenamid-P

Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance**:**
Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DIMETHENAMID-P, TOPRAMEZONE)

Air transport
IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains DIMETHENAMID-P, TOPRAMEZONE)

Further information
Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

15. Regulatory Information

Federal Regulations

Registration status:
Crop Protection TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

EPCRA 313:

CAS Number	Chemical name
91-20-3	naphthalene
90-12-0	Naphthalene, 1-methyl-

91-57-6 Naphthalene, 2-methyl-

CERCLA RQ	CAS Number	Chemical name
100 LBS	91-20-3; 64742-94-5	naphthalene; solvent naphtha

State regulations

State RTK	CAS Number	Chemical name
NJ	67-68-5	dimethyl sulfoxide
	91-20-3	naphthalene
	64742-94-5	solvent naphtha
	90-12-0	Naphthalene, 1-methyl-
PA	91-20-3	naphthalene
	64742-94-5	solvent naphtha
	90-12-0	Naphthalene, 1-methyl-
	91-57-6	Naphthalene, 2-methyl-

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including NAPHTHALENE, which is known to the State of California to cause cancer, and METHANOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

NFPA Hazard codes:
Health: 1 Fire: 1 Reactivity: 0 Special:

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.
CAUTION:
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
HARMFUL IF SWALLOWED.
Prolonged or repeated skin contact may cause sensitization or allergic reactions.
Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

16. Other Information

SDS Prepared by:
BASF Agricultural Solutions US NA Product Regulations
SDS Prepared on: 2022/08/10

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our

operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET