SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name:	**TWINAX XTRA**
Design Code:	A13617AV
Recommended Use:	**Herbicide**
Company Details:	**Syngenta Crop Protection Limited**
Address:	**Tower II, Level 7, 110 Symonds Street** **Private Bag 92618,** **Symonds Street** **AUCKLAND** **NEW ZEALAND**
Telephone number:	**(weekdays) 09 306 1500**
Emergency Telephone number:	**(24 Hours) 0800 734 607**
National Poisons & Hazchem Information Centre :	**0800 POISON (0800 764 766)**

Section 2: HAZARDS IDENTIFICATION

Hazard classification: 6.1D (inhalation), , 6.3B, 6.5 B, 6.9B (oral), 9.1B, 9.2A

Priority Identifier: WARNING
KEEP OUT OF REACH OF CHILDREN

Secondary Identifiers:

6.1D =	Harmful if inhaled.
6.3B =	Causes mild skin irritation.
6.5B =	May cause an allergic skin reaction.
6.9B =	May cause damage to target organs from repeated oral exposure at high doses.
9.1B =	Toxic to aquatic life with long lasting effects.
9.2A =	Very toxic to the soil environment.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixture:

Chemical Identity of ingredients:

Ingredient	**CAS no.**	**Content (% w/w)**
Pinoxaden	243973-20-8	> = 2.5 - <10
cloquintocet-mexyl	99607-70-2	> = 1 - < 2.5
Hexylene glycol	107-41-5	> = 10 - < 20
Solvent naptha (petroleum), heavy arom.	64742-94-5	> = 25 - < 30
Naphthalene	91-20-3	> -0.25 - < 1
other ingredients determined not to be hazardous	-	to 100%

Section 4: FIRST AID MEASURES

Description of First Aid measures:

General Advice: For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Have product container or label at hand. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.

If inhaled: Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a Doctor or the National Poisons Centre immediately.

In case of skin contact:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a doctor. Wash contaminated clothing before re-use.
Important symptoms and effects, both acute and delayed:	
Symptoms:	Aspiration may cause pulmonary oedema and pneumonitis.
Indication of any immediate medical attention and special treatment needed:	
Treatment:	There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and / or aromatic solvents.

Section 5: FIRE-FIGHTING MEASURES

Extinguishing media:	
Suitable extinguishing media:	Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Large Fires: Alcohol resistant foam or water spray.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from the substance or mixture:	
Specific hazards during fire-fighting:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10) Exposure to decomposition products may be a hazard to health.
Advice for firefighters:	
Special protective equipment for firefighters:	Wear full protective clothing and self-contained breathing apparatus.
Further information:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

Section 6: ACCIDENTIAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Refer to protective measures listed in Sections 7 and 8.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and material for containment and cleaning up:	Contain spillage, and then collect with non-combustible absorbent material, (eg, sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.
Reference to other sections:	Refer to disposal considerations listed in Section 13. Refer to protective measures listed in sections 7 and 8.

Section 7: HANDLING AND STORAGE

Precautions for Safe handling:

Advice on safe handling: No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

Conditions for safe storage, including any incompatibilities:

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs.

Specific end use(s)

Specific use(s) For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits:

Components	CAS No	Exposure limit	Type of exposure limit	Source
Pinoxaden	243973-20-8	0.1 mg/m^3	TLV-C	Syngenta
Cloquintocet-mexyl	99607-70-2	5 mg/m^3	TWA	Syngenta
Solvent naphtha (petroleum), heavy arom.	64742-94-5	8 ppm 50 mg/m^3	TWA	Supplier
Naphthalene	91-20-3	10ppm 52 mg/m^3	TWA	WES
		15 ppm 79 mg/m^3	STEL	WES
Hexylene glycol	107-41-5	25 ppm 121 mg/m^3	TWA	WES

Exposure controls

Engineering measures: Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.
The extent of these protection measures depends on the actual risks in use.
Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal Protective Protection:

Eye protection: No special protective equipment required.

Hand protection:

Material: Chemical resistant, such as nitrile rubber
Break through time: >480 min
Glove thickness: 0.5 mm
Remarks: Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing
Respiratory protection:	No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Protective measures:	The use technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:	
Appearance:	clear liquid
Colour:	light yellow to orange brown
Odour:	sweetish
Odour threshold:	No data
pH value	4.5, concentration: 1% w/v
Melting point / freezing point:	No data
Initial boiling point and boiling range:	No data
Flash point:	103 °C Method: Pensky-Martens closed cup
Flammability:	No data
Upper / lower flammability / explosive limits:	No data
Vapour pressure:	No data
Vapour Density:	No data
Density:	0.965 g/cm^3 (25°C)
Solubility:	No data
Partition co-efficient: n-octanol / water:	No data
Autoignition temperature	380 °C
Decomposition temperature:	No data
Dynamic viscosity:	22.39 mPa.s (40°C) 50.0 mPa.s (20°C)
Explosive properties:	Not explosive
Oxidising properties:	Not oxidising

Section 10: STABILITY AND REACTIVITY

Reactivity:
None reasonably foreseeable.

Chemical Stability:
The product is stable when used in normal conditions.

Possibility of Hazardous Reactions:
No dangerous reaction known under conditions of normal use.

Conditions to Avoid
No decomposition if used as directed.

Incompatible Materials:
None known

Hazardous Decomposition Products:
No hazardous decomposition products are known.

Section 11: TOXICOLOGICAL INFORMATION

HSNO Classifications:

6.1D = Harmful if inhaled.
6.3B = Causes mild skin irritation.
6.5B = May cause an allergic skin reaction.
6.9B = May cause damage to target organs from repeated oral exposure at high doses.

***Acute toxicity** (product)*	
Swallowed:	LD_{50} >2000 mg/kg (rat, female)
Dermal absorption:	LD_{50} >2000 mg/kg (rat, male and female)
Inhaled:	LC_{50} (4h) > 2.42 mg/L air (rat)
Aspiration hazard:	**Not classified**
Respiratory irritation:	**Not classified**
Skin corrosion / irritation:	**MODERATE IRRITANT** (rabbit/HSNO Classification)
Eye damage / irritation:	**NON-IRRITANT** (rabbit)
Respiratory or Skin Sensitisation:	**SENSITISER** (skin - guinea pig)
***Chronic / Long Term Effects** (active ingredient)*	
Germ cell mutagenicity:	Animal testing did not show any mutagenic effects.
Carcinogenicity:	No evidence of carcinogenicity in animal studies.
Reproductive toxicity:	No toxicity to reproduction.
Specific Organ toxicity:	*Single exposure:* The substance or mixture is classified as specific target organ toxicant, single exposure with respiratory tract irritation. Class 6.9B (GHS: Category 3) *Repeated exposure:* The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Narcotic Effects:	Not classified

Section 12: ECOLOGICAL INFORMATION

HSNO Classifications:

9.1B = Toxic to aquatic life with long lasting effects
9.2A = Very toxic to the soil environment

Ecotoxicity Effects – aquatic (product)	
Acute toxicity to fish:	LC_{50} (96 h) = 70.7 mg/L (*Zebrafish, Danio Rerio*])
Toxicity to daphnia:	EC_{50} (48h) = 1.8 mg/L (*Daphnia magna* (water flea))
Toxicity to algae:	E_rC_{50} (72 h) = 61 mg/L (*Pseudokirchneriella subcapitata* [green algae]) NOEC (72h) = 6.4 mg/L growth rate.
Ecotoxicity Effects – terrestrial (product)	
Toxicity to Birds:	LD_{50} (21d) = >2000 mg/kg (Japanese quail, Coturnix coturnix japonica)
Toxicity to soil dwelling organisms:	LC_{50} (14 days) = 329.9 mg/kg (earthworms)
Toxicity to Bees:	LD_{50} (oral) = >189.2 µg/bee LD_{50} (contact) = >600 µg/bee
Persistence and degradability:	
Biodegradability:	Pinoxaden is rapidly biodegradable.
Stability in water:	Pinoxaden is not persistent in water. Degradation half-life: 0.3 d
Bioaccumulative potential:	
Bioaccumulation:	Low bioaccumulation potential.
Partition coefficient: n-octanol/water:	Pinoxaden: Log Pow: 3.2 (25°C)
Mobility in soil:	
Distribution among environmental compartments:	Pinoxaden: moderately mobile in soil.
Stability in soil:	Pinoxaden: Dissipation time: 0.1-1.8 d Not persistent in soil.

Other adverse effects:	
Results of PBT and vPvB assessment (product):	This substance contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 13: DISPOSAL CONSIDERATIONS

Product Disposal:	DO NOT contaminate ponds, waterways or ditches with chemical or used containers. DO NOT dispose of waste into sewer. Dispose of this product only by using according to the label. Otherwise, dispose of waste at an approved landfill or other approved facility that will ensure the substance does not exceed the tolerable exposure limit (TEL) or environmental exposure limit (EEL), where relevant, or will treat the substance so that it is rendered no longer hazardous.
Container Disposal:	Ensure the container is empty. Triple rinse empty container and add rinsate to the spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.

Section 14: TRANSPORT INFORMATION

Rail / Road (NZS 5433)	UN-No:	3082
	Class:	9
	Packing Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SOLVENT NAPHTHA)
Sea (IMDG-Code)	UN-No:	3082
	Class:	9
	Packing Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SOLVENT NAPHTHA)
	EmS Code:	F-A, S-F
	MARINE POLLUTANT:	Yes
Air (IATA)	UN-No:	3082
	Class:	9
	Packing Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SOLVENT NAPHTHA)
	Packing Instruction:	Y964 (cargo and passenger)

Section 15: REGULATORY INFORMATION

HSNO Approval Number:	HSR101430
Tolerable Exposure Limit or Environmental Exposure Limit:	
Required Regulatory Controls:	
Certified handler:	No
Tracking:	No
Record Keeping:	Yes (9.2A substance)
ACVM Registration:	P9759
ACVM Controls:	See www.foodsafety.govt.nz for registration conditions.

International Agreements related to the substance (eg, Montreal Protocol, Stockholm Convention or Rotterdam Convention):	Not applicable

Section 16: OTHER INFORMATION

Date of SDS Preparation / Review:	2 July 2020
Version number of SDS:	1

Key / Legend to abbreviations and acronyms used:

AICS - Australian Inventory of Chemical Substances;
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;
CPR - Controlled Products Regulations;
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 ActivityRelationship;
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;
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;
WES – Workplace Exposure Standard (Worksafe NZ)
WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the test.

This version replaces all previous versions.