ECHO® 720
Agricultural Fungicide

SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Chemical Name	1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro
Trade Name**s**	ECHO® 720 Agricultural Fungicide
CAS No.	1897-45-6
EPA Identification Number	EPA Reg. No. 60063-7

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

Identified Use(s)	Fungicide
Uses Advised Against	Do **NOT** aerosolize or atomize to produce inhalable-size particles.

Details of the supplier of the safety data sheet

Company Identification	Sipcam Agro USA, Inc. 2525 Meridian Parkway, Suite 350 Durham, NC 27713 United States of America
Telephone	(919) 226-1195

Emergency telephone number

Emergency Phone No.	CHEMTREC 24 hr. 1-800-424-9300 / 1 (703) 527-3887 (Collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

OSHA HCS (29 CFR 1910.1200) — Acute Tox. 2; Eye Dam. 1; Carc. 2; STOT SE 3

Label elements

This chemical is a pesticide product registered by the United States 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 (SDS) and for workplace labels of non pesticide chemicals. The labeling information below applies to non-pesticide workplace labels. For pesticide label information, refer to Section 15.

Hazard Symbol(s)

Signal Word(s): **DANGER**

Hazard Statement(s):

Fatal if inhaled (Aerosol / Mist).

Causes serious eye damage.

Suspected of causing cancer.

May cause respiratory irritation (Aerosol / Mist).

Precautionary Statement(s)	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/mist/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use of high-pressure spray may cause toxic aerosols. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Wash hands and exposed skin after use. Contaminated work clothing should not be allowed out of the workplace. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Treat symptomatically.
Other hazards	May cause an allergic skin reaction. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Additional Information	None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Composition/information on ingredients	%W/W	CAS No.	Hazard Statement(s)
Chlorothalonil	54	1897-45-6	Acute Tox. 2; H330 Eye Dam. 1; H318 Carc. 2; H351 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
Propylene glycol	< 5	57-55-6	Not classified as dangerous for supply/use.

Additional Information – Contains trace amounts of Hexachlorobenzene, (CAS# 118-45-6)

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
Skin Contact	Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion	Not normally required. Call a POISON CENTER or doctor/physician if you feel unwell. Treat symptomatically.
Most important symptoms and effects, both acute and delayed	Fatal if inhaled (Aerosol / Mist). Causes serious eye damage. May cause an allergic skin reaction.
Indication of any immediate medical attention and special treatment needed	IF INHALED: Immediately call a POISON CENTER or doctor/physician.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

-Suitable Extinguishing Media	Extinguish with carbon dioxide, dry chemical, foam or water spray.
-Unsuitable Extinguishing Media	Do not use water jet.
Special hazards arising from the substance or mixture	Combustion or thermal decomposition will evolve toxic and irritant vapours. Forms oxides of carbon and nitrogen, also chlorine and chlorinated compounds. Decontaminate equipment or materials used in pesticide fires.
Advice for fire-fighters	Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Do not get in eyes. Avoid contact with skin. Do not breathe dust/mist/spray. Wear protective gloves/protective clothing/eye protection/face protection.
Environmental precautions	Prevent substance entering sewers.
Methods and material for containment and cleaning up	Cover spills with inert absorbent material. Transfer to a container for disposal or recovery. Collect spillage. Wash the spillage area with water. If possible prevent water running into sewers.
Reference to other sections	None
Additional Information	None

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Do not get in eyes. Avoid contact with skin. Do not breathe mist/spray. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace.

Conditions for safe storage, including any incompatibilities

-Storage temperature	Store in a well-ventilated place. Keep cool.Keep container tightly closed. Store locked up.
-Incompatible materials	Strong oxidizing agents or reducing agents. Strong acids / bases.
Specific end use(s)	Fungicide

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA)		(STEL)		Note:
		PEL (OSHA)	TLV (ACGIH)	PEL (OSHA)	TLV (ACGIH)	
None	-------	----------	----------	----------	---------	-------

Exposure controls

Appropriate engineering controls

Do **NOT** aerosolize or atomize to produce inhalable-size particles. Use low-pressure course spray only.

Personal protection equipment

Eye/face protection

Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other)

Gloves (PVC, Neoprene, or Natural rubber).

Respiratory protection

Not normally required.

Thermal hazards

Not normally required.

Environmental Exposure Controls

Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid
Color.	Light gray.
Odor	Slight
Odor Threshold (ppm)	Not available
pH (Value)	6 - 8
Melting Point/Freezing Point C)	-5 (23 °F)
Boiling point/boiling range (°C)	100 (212 °F)
Flash Point (°C)	> 93 (>200 °F)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Explosive Limit Ranges	Not applicable
Vapour Pressure (Torr)	5.72×10^{-7} @ 25 °C
Vapour Density (Air=1)	Not available
Density (g/ml)	1.24 @ 25 °C (10.3 lbs/gal)
Specific Gravity	1.24 @ 25 °C
Solubility (Water)	0.6 - 0.9 ppm
Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Point (°C)	Not available
Decomposition Temperature (°C)	Not available
Kinematic Viscosity (cSt)	Not available

Explosive properties	Not explosive
Oxidizing properties	Not available
Other information	VOC Content: 56%

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	None anticipated.
Conditions to avoid	Avoid contact with heat and ignition sources.
Incompatible materials	Strong oxidizing agents or reducing agents. Strong acids / bases.
Hazardous decomposition product(s)	Combustion or thermal decomposition will evolve toxic and irritant vapours: acrid smoke. Forms oxides of carbon and nitrogen, also chlorine and chlorinated compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Skin Contact**,** Eye Contact

Information on toxicological effects

Chlorothalonil (CAS#1897-45-6):

Acute toxicity (calculated / estimated)	Oral: LD50 ~3260 mg/kg-bw (rat) Dermal: LD50 ~2020 mg/kg-bw (rat) Inhalation: LC50 0.1 mg/L (4 hr) (rat) (Inhalable Dust) - May cause respiratory irritation
Irritation/Corrosivity	Causes serious eye damage.
Sensitization	Based on reliable animal studies, the substance is not a skin sensitizer except possibly in the presence of a carrier solvent such as acetone. The substance may be a weak skin sensitizer based on a relatively small number of physician's clinical reports from exposed workers and, therefore, the potential for skin sensitization cannot be completely ruled out.
Repeated dose toxicity	Not to be expected.
Carcinogenicity	Suspected of causing cancer.

NTP	IARC	ACGIH	OSHA
Animal carcinogen	2B	No.	No.

Mutagenicity	Not to be expected.
Reproductive toxicity	Not to be expected.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Chlorothalonil (CAS#1897-45-6):

Short term (estimated / calculated)	LC50 (96 hour): 0.012 mg/L(fish) EC50 (48 hour): 0.0342 – 0.143 mg/L (crustacea)
Long Term	Very toxic to aquatic life with long lasting effects.
Persistence and degradability	Not persistent.

Bioaccumulative potential	The substance has low potential for bioaccumulation.
Mobility in soil	The substance has low mobility in soil.
Results of PBT and vPvB assessment	Not classified as PBT or vPvB.
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.
Additional Information	None known.

SECTION 14: TRANSPORT INFORMATION

	Land transport (U.S. DOT) *	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	UN 3082	UN 3082	UN 3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s. (Chlorothalonil)		
Transport hazard class(es)	9	9	9
Packing group	III	III	III
Hazard label(s)	Marine Pollutant	Marine Pollutant	Marine Pollutant
Environmental hazards	Yes	Yes	Yes
Special precautions for user	None Assigned	None Assigned	None Assigned

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

* Not regulated for ground shipments in the U.S. in non-bulk packaging (<119 gallons).

SECTION 15: REGULATORY INFORMATION

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

TSCA (Toxic Substance Control Act) - Inventory Status**:** All components listed or polymer exempt.

EPA FIFRA Information for SDS Section 15 (Regulatory Information):

This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non pesticide chemicals.

The hazard information required on the pesticide label is reproduced below:

WARNING: May be fatal if inhaled. Harmful if swallowed or absorbed though skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Do not breathe spray mist.

Mixers, loaders, applicators and all other handlers must wear: Long-sleeved shirt and long pants; shoes plus socks,; protective eye wear; chemical-resistant gloves made of waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, polyvinyl chloride, or viton (if you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart); a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Personal Protective Equipment (PPE): Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

Engineering Controls: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements

listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Environmental Hazards: This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate. Chlorothalonil can contaminate surface water through spray drift. DO NOT apply when weather conditions favor drift from treated areas. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water. Chlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

The pesticide label also includes other important information, including directions for use.

Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)
None	-----	-----	-----

SARA 311/312 - Hazard Categories:

☐ Fire ☐ Sudden Release ☐ Reactivity ☒ Immediate (acute) ☒ Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

Chemical Name	CAS No.	Typical %wt.
Chlorothalonil	1897-45-6	~98

SARA 302 - Extremely Hazardous Substances(40 CFR 355):

Chemical Name	CAS No.	Typical %wt.	RQ (Pounds)	TPQ (Pounds)
None	-----	-----	-----	-----

Proposition 65 (California):

Chemical Name	CAS No.	Typical %wt.	Hazards
Chlorothalonil	1897-45-6	~98	Cancer
Hexachlorobenzene	118-74-1	Trace	Cancer

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1 - 16.

Date of preparation: December 29, 2016

Hazard Statement(s) and Risk Phrases Listed in: SECTION 2:/ SECTION 3:

Hazard Statement(s)

- H318: Causes serious eye damage.
- H330: Fatal if inhaled.
- H335: May cause respiratory irritation.
- H351: Suspected of causing cancer.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.

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