Creating Value Through Innovative Solutions

Safety Data Sheet
Sectagon 42®

SDS Number: 657 **Revision:** 12/18/2013

Section 1: Identification

1a. Product Name: **Sectagon 42®**

1b. Other Identification:

Chemical Family	Dithiocarbamate salt solution
Formula	$C_2H_5NS_2.Na$
EC Pre-Registration #:	No

1c. Recommended Use of Chemical:

Soil fumigant (Restricted Use Pesticide)

1d. Manufacturer:

Tessenderlo Kerley, Inc.
2255 N. 44th Street, Suite 300
Phoenix, Arizona 85008-3279

Information (602) 889-8300

1e. Emergency Contact:

NovaSource	(866) 374-1975
CHEMTREC	(800) 424-9300 (Domestic)
	(703) 527-3887 (International)

Section 2: Hazard(s) Identification

2a. Hazard Classification:

Health	Acute toxicity, inhalation, category 3 Acute oral toxicity, Category 4 Acute dermal toxicity, Category 4 Skin corrosion Category 1B Eye damage, Category 1 Aquatic toxicity
Physical	None

2b. Signal Word: DANGER

Hazard Statement(s):

Toxic if inhaled
Causes serious eye damage
Harmful if swallowed
Causes severe skin burns and eye damage.

Symbol(s):

Precautionary Statement(s):

Avoid breathing product gases/vapors.
Use only outdoors in well ventilated areas.
If inhaled, remove person to fresh air and keep comfortable for breathing.
Store in a well-ventilated area. Keep containers tightly closed.
Store locked up.
Wear eye protection/face protection
If in eyes, rinse cautiously with water for several minutes
Immediately contact medical center, Prosar, (866) 374-1975
Wash hands and exposed skin areas thoroughly after handling
Wear protective gloves/protective clothing
Do not allow release/runoff into aquatic waterways

2c. Unclassified Hazard(s): None

2d. Unknown Toxicity Ingredient: None

Section 3: COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Chemical Ingredients: (See Section 8 for exposure guidelines)

Chemical	Synonym Common Name	CAS No.	EINECS No.	% by Wt.
Sodium methyldithiocarbamate	Metam sodium	137-42-8	205-293-0	42.2
Inerts				Remaining %

Section 4: FIRST AID MEASURES

4.1 Symptoms/Effects:

Acute: Eye contact may cause eye irritation. Repeated or prolonged skin contact may cause skin irritation. Ingestion may irritate the gastrointestinal tract.

Chronic: No known chronic effects.

4.2 Eyes: Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye and lids. Do not attempt to neutralize with chemical agents or use oils or ointments. Obtain immediate medical attention.

4.3 Skin: Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Do not neutralize with chemical agents. Obtain medical immediate attention.

4.4 Ingestion: DO NOT INDUCE VOMITING. Give 1 or 2 glasses of water. If vomiting does occur, repeat fluid administration. If unconscious or convulsing, do not give fluids. Obtain medical attention.

4.5 Inhalation: Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen.

If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain medical attention.

Section 5: FIRE FIGHTING MEASURES

5.1 Flammable Properties: (See Section 9, for additional flammable properties)

NFPA: Health 2 Flammability 0 Reactivity 1

5.2 Extinguishing Media: As appropriate for combustibles involved in the fire.

5.2.1 Suitable Extinguishing Media: Not flammable, use media suitable for combustibles involved in fire.

5.2.2 Unsuitable Extinguishing Media: Not applicable.

5.3 Protection of Firefighters:

5.3.1: Specific hazards arising from the chemical: Heating will cause the evolution of methyl isothiocyanate (MITC) and hydrogen sulfide, both of which are highly toxic and flammable gases. It is also conceivable that product breakdown from heating could release carbon disulfide and methylamine, which are also toxic and flammable.

Physical hazards: Heating, fire.

Chemical hazards: Contact with strong acids will release methylamine and carbon disulfide, both highly flammable hazards.

5.3.2: Protective equipment and precautions for firefighters: Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear. Keep containers/storage vessels in fire area cooled with water spray.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions:

Use personal protective equipment specified in Section 8. Isolate the release area and deny entry to unnecessary, unprotected and untrained personnel.

6.2 Environmental Precautions:

Keep out of “waters of the “US” because of potential aquatic toxicity (See Section 12).

6.3 Methods of Containment:

Small release: Confine and absorb small releases with sand, earth or other inert absorbent.

Large release: Shut off release if safe to do so. Dike spill area with earth, sand or other inert absorbent to prevent runoff into surface waterways (potential aquatic toxicity).

6.4 Method for Cleanup:

Small release: For small areas shovel up absorbed material and place in plastic drum for disposal.

Large release: Recover as much of the spilled product as possible for use as originally intended. Treat remaining material as small release above.

Section 7: HANDLING and STORAGE

This is a Restricted Use Pesticide (RUP).

All personnel who handle this product in its end-use application should use this product only in accordance with its pesticide labeling and with the "Worker Protection Standard", 40 CFR 170.

7.1 Handling: Avoid contact with eyes and skin. Use only in a well ventilated area. Wash thoroughly after handling. Avoid breathing of vapors.

7.2 Storage: Store in cool, dry, well ventilated areas. Do not store exposed to the atmosphere as product will decompose and evolve methyl iso-cyanate and hydrogen sulfide, both very toxic gases. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures. Do not store at temperatures below 0°F (-18°C) as the product crystallizes at low temperatures. If crystallization occurs, warm or store at higher temperatures and mix to re-dissolve crystals before use. (See Section 10.3, for materials of construction)

Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Exposure Guidelines:

	OSHA		ACGIH	
	TWA	Ceiling	TLV	STEL
Hydrogen sulfide:	None	20 ppm	10	15

8.2 Engineering Controls: Use adequate exhaust ventilation to prevent inhalation of product vapors.

8.3. Personal Protective Equipment (PPE):

8.3.1 Eye/Face Protection: Chemical goggles and a full face shield.

8.3.2 Skin Protection: Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.

8.3.3 Respiratory Protection: A NIOSH/MSHA approved respirator fitted with organic vapor cartridges may be required when working with this product.

8.3.4 General Hygiene Considerations: Common good industrial hygiene practices should be followed, such as, washing thoroughly after handling and before eating or drinking.

Section 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 Appearance/State/Odor: Pale yellow through colorless to yellow/amber/liquid/strong sulfur like odor
9.2 Odor Threshold: Not determined

9.3 pH:	9.5 to 11.5
9.4 Freezing Point:	Approximately 0°F (-18°C)
9.5 Boiling Point:	230°F (110°C)
9.6 Flash Point:	>200°F (93°C)
9.7 Evaporation Rate:	Not known
9.8 Flammability:	Not applicable
9.9 Flammability Limits:	Not determined
9.10 Vapor Pressure:	21 mm Hg (2.8 kPa) @77°F (25°C)
9.11 Vapor Density:	Not determined
9.12 Specific gravity:	1.209 (10.07 lbs per gallon) @ 68°F typical
9.13 Solubility:	772 gms per Liter @ 20°C
9.14 Partition Coefficient:	Data not available
9.15 Auto-ignition Temperature:	Not applicable
9.16 Decomposition Temperature:	Not determined
9.17 Viscosity:	3.0 to 5.0 cP

Section 10: STABILITY and REACTIVITY

10.1 Reactivity: Product is reactive to elevated temperatures or dilution with water.

10.2 Chemical Stability: This is a stable product under ambient conditions of temperature and pressure.

10.3 Possibility of hazardous reactions: Heating or fire conditions.

10.4 Conditions to Avoid: Prolonged exposure to air will result in decomposition to form methyl isothiocyanate (MITC) a very toxic and flammable material. Metam sodium solutions are corrosive to copper, zinc and aluminum or any of their alloys such as brass, bronze or galvanized materials. These materials of construction should not be used in handling systems or storage containers for this product.

10.5 Incompatible: Heat, acids or acidic materials.

10.6 Hazardous Decomposition Products: Heating this product will evolve methyl isothiocyanate (MITC) and hydrogen sulfide (H_2S) and potentially carbon disulfide (CS_2) and methylamine (MMA). Heating to dryness will cause the production of oxides of nitrogen.

Section 11: TOXICOLOGICAL INFORMATION

11.1.1 Oral: Oral Rat LD_{50}: 970 mg/Kg (Male)

Oral Rat LD50: 790 mg/kg (female

11.2 Dermal: Dermal Rabbit LD_{50}: 1,050 mg/kg

11.3 Inhalation: Inhalation Rat, LC_{50}: 2.28 mg/l

11.4 Eye: Data not available

11.5 Chronic/Carcinogenicity: Metam sodium lab studies have shown some carcinogenic effects in lab animals.

11.6 Teratology: Metam sodium lab studies have shown some developmental effects in lab animals.

11.7 Reproduction: Metam sodium lab studies have shown no evidence of reproductive toxicity in lab animals.

11.8 Mutagenicity: Metam sodium lab studies have shown some evidence of mutagenicity *in vitro* but no conclusive evidence *in vivo.*

Section 12: ECOLOGICAL INFORMATION

Metam sodium is toxic to aquatic species and is a listed Marine pollutant. Do not apply to waterways, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do no contaminate waterways when disposing of equipment washwaters.

12.1 Ecotoxicity: Zebra danio LC_{50}: 251.9 µg/L

Ostraced, shrimp LC_{50}: 35.0 µg/L

Water flea LC_{50}: 330 µg/L

12.2 Persistence & Degradability: No data is available.

12.3 Bioaccumulative potential: This product is not bioaccumulative.

12.4 Mobility in Soil: No data available.

12.5 Other Adverse Effects: None

Section 13: DISPOSAL CONSIDERATIONS

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Consult state and local regulations for different or more restrictive disposal regulations. Purification solids (as from filtering, evaporation, etc.) from the production of dithiocarbamic acid salts are a K161 listed waste and should be disposed of in accordance with RCRA regulations.

Section 14: TRANSPORT INFORMATION

14.1 Basic Shipping Description:

14.1.1 Proper Shipping Name:	Corrosive liquid, basic, inorganic, n.o.s.
14.1.2 Hazard Class(s):	8
14.1.3 Identification Number:	UN3266
14.1.4 Packing Group:	II
14.1.5 Hazardous Substance:	No
14.1.6 Marine Pollutant:	Yes

14.2 Additional Information:

14.2.1 Other DOT Requirements:

14.2.1.1 Reportable Quantity:	No
14.2.1.2 Placard(s):	Corrosive
14.2.1.3 Label(s):	Corrosive

14.2.2 USCG Classification: Not determined

14.2.3 International Transportation:

14.2.3.1 IMO:	Corrosive liquid, basic, inorganic, n.o.s. (UN3266)
14.2.3.2 IATA:	Corrosive liquid, basic, inorganic, n.o.s. (UN3266)
14.2.3.3 TDG (Canada):	Corrosive liquid, basic, inorganic, n.o.s. (UN3266
14.2.3.4 ADR (Europe):	Corrosive liquid, basic, inorganic, n.o.s. (UN3266
14.2.3.5 AICS (Australia):	Corrosive liquid, basic, inorganic, n.o.s. (UN3266
14.2.3.6 ENCS (MITI) Japan	Yes
14.2.3.7 New Zealand	Yes

14.2.4 Emergency Response Guide: 154

14.2.5 ERAP - Canada: Not applicable

14.2.6 Special Precautions: Not applicable

Section 15: REGULATORY INFORMATION

15.1 US Federal Regulations:

15.1.1 OSHA: This product meets the criteria of the Federal OSHA Hazard communication Standard (29 CFR 1910.1200).

15.1.2 TSCA: Not applicable

15.1.3 CERCLA: Reportable Quantity – Not applicable

15.1.4 SARA Title III:

15.1.4.1 Extremely Hazardous Substance (EHS): Not Applicable

15.1.4.2 Section 312 (Tier II) ratings:

Immediate (acute)	Yes
Fire	Yes
Sudden release	No
Reactivity	Yes
Delayed (chronic)	No

15.1.4.3 Section 313 (FORM R): Yes Metham sodium 42.2%

15.1.5 RCRA: Not Applicable

15.1.6 CAA: Hazardous Air Pollutant (HAP): Not Applicable

15.1.7 FIFRA EPA Reg. No, 61842-6 (Restricted Use Pesticide).

15.1.8 Prop. 65 (CA) This product contains metam sodium a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

15.2 International Regulations

15.2.1 Canada

15.2.1.1 WHMIS:	Not determined
15.2.1.2 DSL/NDSL:	DSL, No. 3773

Section 16: OTHER INFORMATION

The entire SDS was reformatted to comply with ANSI Standard Z400.1-2004, and OSHA Hazard Communications Act (GHS), by Tessenderlo Kerley, Inc., Regulatory Affairs.

REVISIONS:

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