

SAFETY DATA SHEET

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Version 2.2
Date of Issue: 03/13/2015
Revision Date: 12/26/2018

CELOGEN® OT

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: CELOGEN® OT

Chemical name: Self-reactive solid type D (Benzenesulfonic acid, 4,4'-oxybis-, 1,1'-dihydrazide)

Use of substance/preparation: Foaming Agent

Supplier: CelChem LLC
6519 Carema Lane
Naples, FL 34113 USA

Emergency telephone number: INFOTRAC 24 hour numbers:
USA & Canada: 1-800-535-5053
Mexico: 01-800-681-1530
Outside North America: +1-352-323-3500 (collect)

Contact: 239-228-2285
Email: customerservice@celchemllc.com

2. HAZARDS IDENTIFICATION

United States (US): According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

Flammable Solid - Category 1 - H228

Self-reactive - Type D - H242

Combustible Dust

Acute Oral Toxicity - Category 4 - H302

STOT Repeat - Category 2 (kidneys, bone marrow, spleen, thymus, nervous system) - H373

Label Elements

Pictogram:



Signal Word:

Danger

Hazard Statement(s):

Flammable solid.

Heating may cause a fire.

May form combustible dust concentrations in air.

Harmful if swallowed.

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May cause damage to organs through prolonged or repeated exposure (Kidneys, Bone Marrow, Spleen, Thymus, Nervous System).

Precautionary statement(s):

Keep / store away from heat/sparks/open flames/hot surfaces/combustible materials. No smoking.

Ground/Bond container and receiving equipment.

Use explosion-proof electrical/ventilating/ lighting equipment.

Wear protective gloves/eye protection/face protection.

In case of fire: Use water spray or dry chemical to extinguish.

Keep only in original container.

Store in a well-ventilated place. Keep cool.

Store at temperatures not exceeding 70°C / 158°F.

Store away from other materials.

Dispose of contents/container in accordance with appropriate Federal, State, and local regulations. Avoid discharge to sewers and natural waters.

Wash exposed areas thoroughly with warm water and mild soap after handling.

Do not eat, drink or smoke when using this product.

If swallowed: call a doctor if you feel unwell. [See section 4 for additional information]

Rinse mouth.

Do not breathe dust.

Get medical attention if you feel unwell.

Other Hazards:

Avoid dispersion of dust in air to reduce potential for dust ignition/explosions.

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS Number	Percent (w/w)	Substance Classification
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	93 - 97	Flammable Solid - Category 1 - H228 Self-reactive - Type D - H242 Combustible Dust Acute Oral Toxicity - Category 4 - H302 STOT Repeat - Category 2 (kidneys, bone marrow, spleen, thymus, nervous system) - H373
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	1 - 1.5	Aspiration - Category 1 - H304
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	1 - 1.5	Aspiration - Category 1 - H304

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4. FIRST AID MEASURES

Swallowing

Drink promptly a large quantity of milk, egg white or gelatin solution. If not available, drink a large quantity of water. Obtain medical attention immediately.

Inhalation

Remove to fresh air. Monitor for respiratory distress. Obtain medical attention.

Skin contact

Wash thoroughly with warm water using a mild soap.

Eye contact

Flush eyes thoroughly with water for several minutes. Obtain medical attention if discomfort persists.

5. FIREFIGHTING MEASURES

Special firefighting procedures

DO NOT ATTEMPT MANUAL FIRE FIGHTING

Fires involving this material should be fought with fixed automatic equipment only.

Evacuate all personnel from danger area.

Avoid dusting when handling and avoid all possible sources of ignition (spark or flame).

Use water spray to cool fire-exposed containers and structures.

Fires involving large quantities of this material should not be approached, as individual containers may rupture abruptly, creating a 'fireball' effect.

Extinguishing media

Suitable:- water spray

- dry chemical

Special protective equipment for firefighters

Firefighters must be equipped to prevent breathing of vapors or products of combustion.

Wear an approved self-contained breathing apparatus and protective clothing.

Full protective clothing

Unusual fire and explosion hazards

May form explosive dust-air mixtures.

Once ignited, material will continue to burn, generating large volumes of gas.

Use copious amounts of water to extinguish.

Individual containers may explode when exposed to heat.

Keep personnel at a reasonable distance from fires involving large quantities

NFPA Classification:

Health: 1

Flammability: 3

Reactivity: 2

Special provisions: No data available.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid all contact.

Environmental precautions

Avoid discharge to sewers or natural waters.

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Methods for cleaning up

Extinguish and do not turn on any ignition source until the area is determined to be free from fire or explosion hazards. Vacuum up using explosion proof vacuum to avoid creating dust.

Avoid dust formation.

Eliminate sources of ignition.

Collect in a suitable container for disposal.

Dispose of waste material in compliance with all federal, provincial and local regulations.

7. HANDLING AND STORAGE

HANDLING

Handling precautions

Avoid dispersion of dust to reduce fire and explosion potential. Take precautionary measures against static discharges.

Other precautions

Limit quantity of product in processing or use area to no more than one container. Excessive heat and pressure build up should be avoided during mixing or processing.

STORAGE

Storage requirements

Keep away from heat, sparks and flame. Store in a cool, dry and well-ventilated area. Keep container tightly closed.

Further information on storage

Separate from combustible storage by 8 ft. aisles or isolate in a detached building. Do not store over 4 ft. high unless sprinklers are hydraulically designed to produce a density of 0.5 gpm/sq. ft. over the entire area.

Maximum Storage Temperature: 70°C 158°F

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Component	Country	Type	Value	Remark
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]		ACGIH	0.1 mg/m ³	

ENGINEERING CONTROLS

Further information

Local exhaust ventilation is STRONGLY recommended.

Any mechanical ventilation has to be explosion proof!

Do not allow dust to accumulate on equipment or building surfaces. If cleaning becomes necessary, use explosion-proof /non-sparking vacuum cleaning equipment to eliminate potential ignition sources and to minimize dispersal of dust to the air. Equipment covered with dust must be wetted down with water before being disassembled for maintenance. Protect closed dust handling systems against possible dust explosions through proper grounding, venting and with sprinklers. All electrical equipment and devices must meet Class II, Div. II, Electrical motors must be Totally Enclosed Fan-Cooled (TEFC)

PERSONAL PROTECTION

Respiratory protection

In case of occurrence of dust respiratory protective equipment is required.

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Hand protection / protective gloves

Wear chemical resistant protective gloves

Eye protection

Wear safety glasses with side shields.

Skin protection

Wear protective clothing, such as long sleeves to minimize skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical state	Powder
Color	White
Odor	Characteristic
Odor threshold	Not available
pH	~4.0
Melting Point	158 °C
	318 °F Decomposes
Freezing Point	Not applicable
Initial Boiling Point/Boiling Range	Not applicable
Flash Point	Decomposes
Flammability Limits	Upper: Not available Lower: Not available
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Density	1.53 g/cm ³ at 25 °C
Solubility in water	Insoluble
Solubility in organic solvents	Slightly soluble
Partitioning Coefficient	Not available
Auto ignition Temperature	>302°F
Decomposition Temperature	318 °F
	Decomposes without ignition. Bulk quantities may self-ignite if heated
Viscosity	Not applicable
Dielectric constant	1.29

10. STABILITY AND REACTIVITY

Reactivity

Incompatible materials:

Peroxides.

Strong oxidizing agents

Chemical Stability: This product is stable only when stored at, or below, the recommended maximum temperature. Becomes increasingly unstable as temperature approaches decomposition point. Slow decomposition will occur at temperatures considerably below the stated decomposition point.

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SADT:

Value: 158 °F

Hazardous reactions:

Keep away from heat.

Hazardous polymerization - Conditions to avoid:

Decomposition or polymerization may occur at temperatures:

>70° C (158° F)

11. TOXICOLOGICAL INFORMATION

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	>= 1000 <= 2000 mg/kg bw (Rat)	> 200 mg/kg bw (Rabbit)	> 0 < 1000 mg/m ³ air (species not specified)
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	> 5000 mg/kg bw (Rat) (similar substance)	> 2000 mg/kg bw (Rabbit) (similar substance)	> 5.53 mg/L (rat, mist, 4hr)
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	> 5000 mg/kg bw (Rat) (similar substance)	> 2000 mg/kg bw (Rabbit) (similar substance)	> 5.53 mg/L (rat, mist, 4hr)

Substances	CAS Number	Skin Corrosion / Irritation
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	Skin, rabbit: Causes mild skin irritation.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	Not irritating to rabbit's skin (similar substance).
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Not irritating to rabbit's skin (similar substance).

Substances	CAS Number	Eye damage/irritation
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	Eye, rabbit: Causes mild eye irritation.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	Non-irritating to rabbit's eye
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Non-irritating to rabbit's eye

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Substances	CAS Number	Skin Sensitization
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	No data of sufficient quality are available. Predictive tools indicate the possibility of skin sensitization.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	Did not cause sensitization on laboratory animals (guinea pigs)
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Did not cause sensitization on laboratory animals (guinea pigs)

Substances	CAS Number	Respiratory Sensitization
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	No information available
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	No information available
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	No information available

Substances	CAS Number	Mutagenic Effects
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	In vivo tests did not show mutagenic effects. In vitro tests have shown mutagenic effects.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	In vivo tests did not show mutagenic effects (similar substance). In vitro tests did not show mutagenic effects.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	In vivo tests did not show mutagenic effects (similar substance). In vitro tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	No information available.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	Did not show carcinogenic effects in animal experiments (similar substance).
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Did not show carcinogenic effects in animal experiments (similar substance).

Substances	CAS Number	Reproductive toxicity
p-p'-Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	No significant toxicity observed in animal studies at concentrations requiring classification.
Distillates, petroleum,	64742-53-6	Animal testing did not show any effects on fertility. Did not show teratogenic

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hydrotreated light naphthenic		effects in animal experiments.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
p-p'- Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	No significant toxicity observed in animal studies at concentrations requiring classification.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	No significant toxicity observed in animal studies at concentrations requiring classification.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	No significant toxicity observed in animal studies at concentrations requiring classification.

Substances	CAS Number	STOT - repeated exposure
p-p'- Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	May cause disorder and damage to the kidneys, bone marrow, spleen, thymus, nervous system.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	No significant toxicity observed in animal studies at concentrations requiring classification.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	No significant toxicity observed in animal studies at concentrations requiring classification.

Substances	CAS Number	Aspiration hazard
p-p'- Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	Not applicable.
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	May be fatal if swallowed and enters airways.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	May be fatal if swallowed and enters airways.

12 ECOLOGICAL INFORMATION

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
p-p'- Oxybis(benzenesulfonylhydrazide) [OBSh]	80-51-3	No information available	No information available	No information available	No information available
Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	No information available	No information available	No information available	No information available

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Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	No information available	No information available	No information available	No information available
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13 DISPOSAL CONSIDERATIONS

General: Dispose of in accordance with appropriate Federal, State, and local regulations. Avoid discharge to sewers and natural waters.

Refer to Section 8: Exposure Controls/Personal Protection

14 TRANSPORT INFORMATION

DOT Classification

Proper shipping name: Self-reactive solid type D (Benzenesulfonic acid, 4,4'-oxybis-, 1,1'-dihydrazide)

Class: 4.1

UN ID #: UN 3226

Packing group: II

Technical description: diphenyloxide 4,4'-disulfonylhydrazide or p-p'-Oxybis(benzenesulfonylhydrazide)

IMDG Classification

Proper shipping name: Self-reactive solid Type D

Class: 4.1

UN ID #: UN 3226

Packing group: II

Technical description: diphenyloxide 4,4'-disulfonylhydrazide or p-p'-Oxybis(benzenesulfonylhydrazide)

ICAO Classification

Proper shipping name: Self-reactive solid Type D

Class: 4.1

UN ID #: UN 3226

Packing group: II

Technical description: diphenyloxide 4,4'-disulfonylhydrazide or p-p'-Oxybis(benzenesulfonylhydrazide)

15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ's) in 40CFR302.4.

Components present in this product at a level which could require reporting under the statute are:

**** NONE ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

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THE OPINIONS EXPRESSED HEREIN ARE THOSE OF QUALIFIED EXPERTS WITHIN CELCHEM LLC. WE BELIEVE THAT THE INFORMATION CONTAINED HEREIN IS CURRENT AS OF THE DATE OF THIS SAFETY DATA SHEET. SINCE THE USE OF THIS INFORMATION AND OF THESE OPINIONS AND THE CONDITIONS OF USE OF THIS PRODUCT ARE NOT WITHIN THE CONTROL OF CELCHEM LLC, IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THE PRODUCTS

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**** NONE ****

Massachusetts Right-To-Know Substance List (MSL)--Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	CAS#	Max weight %
Distillates (petroleum), hydrotreated heavy naphthenic	64742-53-6	

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

Chemical name	CAS#	New Jersey TS Number
p-p'-Oxybis(benzenesulfonylhydrazide)[OBSh]	80-51-3	

EPA Hazard Categories (SARA 311, 312): Immediate Health Hazard

California Proposition 65

CAS#

Delisted 12/2013

CHEMICAL INVENTORY

Canada:	This product is on the DSL.
Europe:	The ingredients of this mixture are on the EINECS inventory.
United States:	This product is on the TSCA inventory.
Australia:	This product is on the AICS inventory.
China:	This product is on the IECSC inventory.
Japan:	This product is on the ENCS inventory.
Korea:	This product is listed on the Existing Chemicals List (ECL).
Philippines:	This product is on the PICCS.

Food additive:	p-p'-Oxybis(benzenesulfonylhydrazide)[OBSh]: 21CFR177.1210, 21CFR177.2600
Food contact:	This product has numerous FDA clearances. Please contact CelChem LLC for details.
Cosmetics:	No data available.
Pharmaceuticals:	No data available

16. OTHER INFORMATION

HMIS RATING

Health: 1	Flammability: 3	Reactivity: 2	PPI: X
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STP	Standard temperature and pressure
w/w	Weight/weight
0 (HMIS)	No hazard
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

Date last modified: April 8, 2015