MATERIAL SAFETY DATA SHEET

Revision date: 24-Jan-2013 **Supercedes:** 10-Jan-2010 **MSDS Number:** 10495

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name: BENTONE-GEL® 1

Synonyms:

Product Use Description: Dispersing agent

Company/Undertaking Identification:

Elementis Specialties, Inc.
469 Old Trenton Road
East Windsor, NJ 08512
USA
Tel: 1 (609) 443-2000

Elementis UK Ltd.
c/o Elementis GmbH
Stolberger Str. 370
50933 Cologne, Germany
Tel. +49 (0) 221 2923 2000

Emergency telephone number: For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at: 1-800-424-9300 or 1-703-527-3887

For ALL other inquiries about this product, call Elementis Specialties at: 1-609-443-2000 (USA) or +(49)-221-2923-2000 (EU)

Product_Stewardship@elementis.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: Gel
Color: Amber
Odor: Light

WARNING

FLAMMABLE LIQUID

Harmful if swallowed
May cause slight eye irritation
May cause irritation of respiratory tract
May cause skin irritation and/or dermatitis
Vapours may cause drowsiness and dizziness
Long term exposure to airborne concentrations may cause lung damage
CONTAINS CHEMICAL(S) WHICH MAY CAUSE CANCER
Risk of cancer depends on level and duration of exposure

Potential health effects:

Eye contact: May cause slight eye irritation. Signs and symptoms include burning, tearing, redness and swelling.

Skin contact: May cause skin irritation and/or dermatitis.

Inhalation: May cause irritation of respiratory tract. Vapors may cause drowsiness and dizziness. Long term exposure to airborne concentrations may cause lung damage.

Ingestion: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Routes of exposure: Inhalation, Skin, Ingestion

Target Organs: Respiratory system, Central nervous system

Environmental hazard: See Section 12, below

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Components	CAS-No	Weight %
Crystalline Silica (Quartz)	14808-60-7	< 0.5%
Ethyl benzene	100-41-4	< 0.5%
Methyl ethyl ketoxime	96-29-7	<2.5%
n-Butyl alcohol	71-36-3	< 2.5%
Xylenes (o-, m-, p- isomers)	1330-20-7	< 2.5%
Petroleum distillates, hydrotreated light	64742-47-8	10 - 25%
Stoddard solvent	8052-41-3	10 - 25%
Naphtha, petroleum, hydrodesulfurized heavy	64742-82-1	25 - 50%

This product is considered hazardous as defined under OSHA's Hazard Communication Standard (29 CFR 1910.1200).

4. FIRST AID MEASURES

Inhalation: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen.

Skin contact: Wash off immediately with soap and plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician.

Eye contact: Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.

Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

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Flash Point: 93 °F / 34 °C

Flash Point Method: ASTM D3278

Lower Flammable Limit: 1.0 Vol%
Upper Flammable Limit: 6.0 Vol%

Autoignition temperature: Not self-igniting

Unusual Fire and Explosion Hazards: Emits toxic fumes under fire conditions.

Reactivity Hazard: None known

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO2), Nitrogen oxides (NOx).

Special Fire Fighting Procedure: Wear self contained breathing apparatus for fire fighting if necessary

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep people away from and upwind of spill/leak. Use personal protective equipment.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Clean-up methods: Soak up with inert absorbent material and dispose of as hazardous waste. Sweep up and shovel into suitable containers for disposal. Prevent product from entering drains. Clean spill area thoroughly. Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

Handling: Take precautionary measures against static discharges. Remove all sources of ignition. Avoid contact with skin, eyes and clothing. Avoid breathing mists, dusts, or vapors. Wash hands thoroughly after handling.

Storage: Keep containers tightly closed in a cool, well-ventilated place. Keep product and empty container away from heat and sources of ignition.

Additional Storage: Not required under normal use

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Maintain adequate ventilation to keep hazardous ingredients below their PELs or TLVs. Use NIOSH/MSHA approved respirator whenever exposure limits exceeded.

Personal Protective Equipment

Eye protection: Safety glasses.

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

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection: Protective gloves, Solvent-resistant gloves, Nitrile rubber

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

Exposure controls

Components	OEL - Long-term TWA	OES - Short-term STEL
Xylenes (o-, m-, p- isomers)	220 mg/m^3 50 ppm	441 mg/m^3 100 ppm
Naphtha, petroleum, hydrodesulfurized heavy	575 mg/m^3 100 ppm	

Components	OSHA STEL	OSHA PEL	OSHA TWA	OSHA Ceiling
Crystalline Silica (Quartz)		0.1 mg/m^3 (respirable fraction)	0.1 mg/m^3 (respirable fraction)	
Ethyl benzene	125 ppm 545 mg/m^3	100 ppm 435 mg/m^3	435 mg/m^3 100 ppm	
n-Butyl alcohol		300 mg/m^3 100 ppm	300 mg/m^3 100 ppm	150 mg/m^3 50 ppm
Xylenes (o-, m-, p-isomers)	150 ppm 655 mg/m^3	100 ppm 435 mg/m^3	435 mg/m^3 100 ppm	
Stoddard solvent		2900 mg/m^3 500 ppm	525 mg/m^3 100 ppm	

Components	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	ACGIH - Carcinogens	ACGIH - Threshold Limit Values TLV Basis - Critical Effcts
Crystalline Silica (Quartz)	0.025 mg/m^3 (respirable fraction)			A2 Suspected Human Carcinogen	lung cancer pulmonary fibrosis
Ethyl benzene	20 ppm			A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	upper respiratory tract irritation kidney damage (nephropathy) cochlear impairment
n-Butyl alcohol	20 ppm				eye and upper respiratory tract irritation

Components	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	ACGIH - Carcinogens	ACGIH - Threshold Limit Values TLV Basis - Critical Effcts
Xylenes (o-, m-, p-isomers)	100 ppm 435 mg/m^3	150 ppm 651 mg/m^3		A4 Not Classifiable as a Human Carcinogen	CNS impairment eye and upper respiratory tract irritation
Stoddard solvent	100 ppm				CNS impairment eye, kidney and skin damage nausea

Components	WEEL Ceiling	WEEL TWA	WEEL STEL
Methyl ethyl ketoxime		36 mg/m^3 10 ppm	

Components	ACGIH - Skin Absorption Designation	ACGIH - Biological Exposure Indices (BEI)	ACGIH - Sensitization (SEN) Notations	ACGIH - Simple Asphyxiants
Ethyl benzene		0.7 g/g creatinine urine end of shift at end of workweek Sum of mandelic acid and phenylglyoxylic acid nonspecific, semi-quantitative end-exhaled air not critical Ethyl benzene semi-quantitative		
Xylenes (o-, m-, p-isomers)		1.5 g/g creatinine urine end of shift Methylhippuric acids		

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gel

Color: Amber

Odor: Light

Physical state: Solid / Liquid (gel)

Vapor pressure: 4 mm Hg @ 25°C
2 hPa @ 20°C

Vapor density: 2.55

Boiling point/range: > 172 °F / > 78 °C

Solubility: Water insoluble

Density: 0.89 g/cm³

Bulk density: 7.4 lbs/gal

Flash Point: 93 °F / 34 °C

Ignition temperature: 230 (°C)

Solvent content:

Percent Volatile: 20 - 25 %

Water content: 0.5 %

VOC content: 608 g/L

Evaporation rate: < 1.0

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions

Conditions to avoid: Heat, flames and sparks

Materials to avoid: Oxidizing agents

Hazardous decomposition products: None reasonably foreseeable

Possibility of Hazardous Reactions: None known

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components	LC50/inhalation	LD50/Dermal	LD50/Oral
Crystalline Silica (Quartz)	No data available	No data available	500 mg/kg
Ethyl benzene	17.2 mg/L	15354 mg/kg (rabbit)	3500 mg/kg (rat)
Methyl ethyl ketoxime	20 mg/L	0.2 mg/kg (rabbit)	930 mg/kg
n-Butyl alcohol	8000 mg/L	3400 mg/kg	790 mg/kg
Xylenes (o-, m-, p- isomers)	5000 ppm 4hr 47635 mg/L 4hr	> 1700 mg/kg (rabbit)	4300 mg/kg (rat)
Petroleum distillates, hydrotreated light	> 5.2 mg/L	> 2000 mg/kg	> 5000 mg/kg
Stoddard solvent	> 5500 mg/m³	> 3000 mg/kg (rabbit)	> 5000 mg/kg (rat)
Naphtha, petroleum, hydrodesulfurized heavy	> 12 mg/L	> 3160 mg/kg	> 5000 mg/kg

Local effects

Skin contact: May cause skin irritation and/or dermatitis.

Eye contact: Contact with eyes may cause irritation.

Inhalation: May cause irritation of respiratory tract.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic toxicity: No data is available on the product itself

Specific effects

Carcinogenic effects: This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)
Methyl etlyl ketoxime is/are considered carcinogenic to animals in certain countries, e.g. in GHS CLP

Components	NTP	IARC	OSHA
Crystalline Silica (Quartz)	Group A - Known to be human carcinogens	Group 1- Carcinogenic to Humans	Present
Ethyl benzene		Group 2B - Possibly Carcinogenic to Humans	Present
Xylenes (o-, m-, p- isomers)		Group 3 - Unclassifiable as to Carcinogenicity to Humans	
Stoddard solvent		Group 3 - Unclassifiable as to carcinogenicity to humans	

Target Organs: Respiratory system, Central nervous system

12. ECOLOGICAL INFORMATION

Aquatic toxicity:

Ecotoxicity Effects The environmental impact of this product has not been fully investigated.

Components	LC50	EC50	Bioaccumulation Concentration Factor	No Observable Effect Concentration/96hr/ 48hr/24hr (NOEC)
Crystalline Silica (Quartz)	No data available	No data available	No data available	No data available
Ethyl benzene	150 mg/L (L. macrochirus; 96hr)	438 mg/L (S. capricornutum; 96hr)	No data available	No data available
Methyl ethyl ketoxime	320 - 1000 mg/L (freshwater fish)	750 mg/L (Daphnia magna; 48hr) 83 mg/L (S. subspicatus; 72hr)	No data available	No data available

n-Butyl alcohol	1730 mg/L (fathead minnow)	2337 mg/L (Daphnia magna; 48hr) 500 mg/L (Algea)	No data available	No data available
Xylenes (o-, m-, p-isomers)	13.5 mg/L (Rainbow trout)	3.82 mg/L (water flea; 48hr)	No data available	No data available
Petroleum distillates, hydrotreated light	1740 mg/L (Lepomis macrochirus; 96hr) 45 mg/L (Pimephales promelas; 96hr)	4720 mg/L (Den-dronereides heteropoda; 96hr)	No data available	No data available
Stoddard solvent	> 1000 mg/L (fish)	> 1000 mg/L	No data available	No data available
Naphtha, petroleum, hydrodesulfurized heavy	2.6 mg/L (Chaetogammarus marinus; 96hrs)	2.6 mg/L (Chaetogammarus marinus; 96hrs)	No data available	No data available

Persistence and degradability: No data available

Environmental Fate and Pathways:

Mobility: No data available

Biodegradability: No data available

Bioaccumulative potential: No data available

Physical / Chemical: No data available

BOD/COD:

COD-value: No data available

BOD5-value: No data available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with Local and National regulations.

RCRA Hazardous Waste:

RCRA: Characteristic Waste - D001 (ignitable)

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: `FLAMMABLE LIQUID, N.O.S. (STODDARD SOLVENTS, PETROLEUM DISTILLATE)`

UN-No: 1993

14. TRANSPORT INFORMATION

Packing group: III
Hazard Class: 3
Marine pollutant: NO

International Air Transportation (ICAO/IATA):

Proper shipping name: `FLAMMABLE LIQUID, N.O.S. (STODDARD SOLVENTS, PETROLEUM DISTILLATE)`
UN-No: 1993
Packing group: III
Hazard Class: 3

International Maritime Organization (IMO/IMDG):

Proper shipping name: `FLAMMABLE LIQUID, N.O.S. (STODDARD SOLVENTS, PETROLEUM DISTILLATE)`
UN-No: 1993
Packing group: III
Hazard Class: 3
EmS: F-E, S-E
IMDG - Marine Pollutants: NO

Surface Shipments in Europe (ADR/RID):

ADR/RID: 3 Flammable liquids
UN-No: 1993
Packing group: III
Hazard Class: 3
Proper shipping name: `FLAMMABLE LIQUID, N.O.S. (STODDARD SOLVENTS, PETROLEUM DISTILLATE)`

15. REGULATORY INFORMATION

International Inventories

USA (TSCA): Listed
EU (EINECS): Listed
CANADA (DSL): Listed
CANADA (NDSL): Not applicable
JAPAN (ENCS): Listed
CHINA (IECSC): Listed
PHILIPPINES (PICCS): Listed
KOREA (KECL): Listed
AUSTRALIA (AICS): Listed
NEW ZEALAND (HSNO): Listed
TAIWAN (NECSI): Listed

U.S. Regulations

Components	Hazardous Air Polutants
Xylenes (o-, m-, p- isomers)	Present isomers and mixtures
Ethyl benzene	Present

Components	Hazardous Substances	Priority Pollutants	Toxic Pollutants
Xylenes (o-, m-, p- isomers)	Present		
Ethyl benzene	Present	Present	

TSCA Section 12(b) Export Notification

Xylenes (o-, m-, p- isomers) (CAS # 1330-20-7) **Section 4 (as p-Xylene CAS# 106-42-3); 1% de minimus concentration**

SARA Title III:

Section 302 EHS: None

Section 311/312: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Section 313: This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):

n-Butyl alcohol (CAS # 71-36-3)	*Listed*
Xylenes (o-, m-, p- isomers) (CAS # 1330-20-7)	*Listed*
Ethyl benzene (CAS # 100-41-4)	*Listed*

California Prop. 65:

The following statement is made in order to comply with the California Safe Drinking Water and toxic Enforcement Act of 1986:
This Product contains the following substance (s) known to the state of California to cause cancer and/or developmental effects.
Benzene
Ethyl alcohol
Ethyl Benzene
Naphthalene
Toluene

Components	Carcinogen	Reproductive toxicity	No significant risk level
Ethyl benzene	Listed		54 µg/day 41 µg/day

Canada

WHMIS hazard class: B2 Flammable liquid

D2B Skin or Eye irritation

D2A Possible, probable or known human carcinogen according to classifications by IARC or ACGIH.

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

HMIS:

Health:	2 *
Flammability:	3
Physical Hazard:	0

Previous Revision Date: 10-Jan-2010

Key/Legend:
N/A: Not applicable
N/D: Not determined
ppm: Parts per million
X: Listed

Prepared by: Product Stewardship

The information provided in this Safety Data Sheet is correct to the best of ELEMENTIS' knowledge, information and belief at the date of its publication. The information given is designed only as 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 product designated and may not be valid for such product when used in combination with any other material or in any process, unless specified in this SDS. ELEMENTIS specifically disclaims any liability for any loss, injury or damage which may result from use or misuse of this product.

All chemicals should be handled only by competent personnel, within a controlled environment. It is the buyer's/user's responsibility to ensure that his activities comply with all applicable federal, state, provincial and local laws, and to determine the conditions necessary for the safe use of this product. ELEMENTIS urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product.