spectrum®



SAFETY DATA SHEET

Preparation Date: 8/2/2017	Revision date 1/31/2019	Revision Number: G2	
1. IDENTIFICATION			
Product identifier			
Product code: Product Name:	H1007 HEXAMETHYLDISILAZANE, REAGENT		
<u>Other means of identification</u> Synonyms:	Bis(trimethylsilyl)amine 1,1,1,3,3,3-Hexamethyldisilazane Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)- (9CI) 1,1,1-Trimethyl-N-(trimethylsilyl)silanamine		
CAS #: RTECS # CI#:	999-97-3 JM9230000 Not available		
Recommended use of the chem	nical and restrictions on use		
Recommended use: Uses advised against	Chemical intermediate. No information available		
Supplier:	Spectrum Chemical Mfg. Corp 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000		
Order Online At: Emergency telephone number Contact Person: Contact Person:	https://www.spectrumchemical.com Chemtrec 1-800-424-9300 Tom Tyner (USA - West Coast) Ibad Tirmiz (USA - East Coast)		
2. HAZARDS IDENTIFICATION			

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

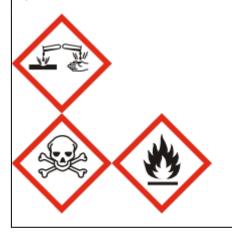
Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Flammable liquids	Category 2

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage Toxic in contact with skin Toxic if inhaled Harmful if swallowed Highly flammable liquid and vapor



Hazards not otherwise classified (HNOC) Not Applicable

Other hazards Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product Wear protective gloves/protective clothing/eye protection/face protection Use only outdoors or in a well-ventilated area Do not breathe dust/fume/gas/mist/vapors/spray Keep away from heat/sparks/open flames/hot surfaces. — No smoking Keep container tightly closed Ground/bond container and receiving equipment Use explosion-proof electrical/ventilating/lighting/.../equipment Use only non-sparking tools Take precautionary measures against static discharge Keep cool

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician In case of fire: Use CO2, dry chemical, or foam to extinguish. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell Wash contaminated clothing before reuse IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower 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 Rinse mouth Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Product code: H1007

Product name: HEXAMETHYLDISILAZANE, REAGENT

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Component CAS No Weight-%		
Hexamethyldisilazane999-97-3100			
	4. FIRST AID MEASURES		
First sid massures			
First aid measures			
General Advice:	National Capital Poison Center in the United have a poison emergency and need to talk 1-800-222-1222. Ensure that medical perso involved and take precautions to protect the himself.	to a poison specialist. Call onnel are aware of the material(s)	
Skin Contact:	Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.		
Eye Contact:	Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.		
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.		
Ingestion:	Do not induce vomiting without medical advice. I unconscious person. Immediate medical attentic Control Center immediately.		
Most important symptoms and effe	ects, both acute and delayed		
Symptoms	Severe skin and eye irritation or burns May cause burning or stinging sensation, redness Contact with eyes may cause burning sensation May cause corneal injury Irritating to respiratory system May cause pulmonary edema May cause chemical pneumonitis May cause chemical pneumonitis May cause inflammation and edema of the laryn It may cause chemical burns of the respiratory tr Causes serious gastrointestinal tract irritation or Can burn mouth, throat, and stomach Burning sensation in the mouth and stomach May cause abdominal pain, nausea, vomiting, di Dyspnea (Difficulty breathing and shortness of b Respiratory depression May affect the liver Narcosis Ataxia Inhalation of high concentratons may cause loss	, tearing, inflammation ox and bronchi ract burns iarrhea ireath)	
	al attention and special treatment needed		

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically.

<u>Protection of first-aiders</u> First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media Suitable Extinguishing Media:	Carbon dioxide (CO2). Dry chemical. Water spray. Alcohol-resistant foam.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	
Hazardous combustion products	Carbon Monoxide, Carbon Dioxide. Nitrogen oxides (NOx). Ammonia. Silicon oxides.
Specific hazards	May be ignited by heat, sparks or flames. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. Fire may produce irritating, corrosive and/or toxic gases.
Special Protective Actions for Firefighters	
Specific Methods:	No information available
Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.
Methods and material for contain	nment and cleaning up
Methods for containment	Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Moisture sensitive. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Acids Bases Oxidizing agents Water Strong reducing agents Amines Peroxides Alcohols isocyanates Phenols

Product name: HEXAMETHYLDISILAZANE, REAGENT

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Hexamethyldisilazane	999-97-3	None	None	None	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Hexamethyldisilazane	999-97-3	None	None	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
Hexamethyldisilazane	999-97-3	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Goggles
Skin and body protection:	Chemical resistant apron Long sleeved clothing Gloves If working with large quantities: Chemical resistant protective suit
Respiratory protection:	Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
Hygiene measures:	Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Appearance:	Color:
Liquid	No information available.	Colorless.
Odor:	Taste	Formula
Ammonia-like.	No information available.	C6H19NSi2
Molecular/Formula weight (g/mole)	: Flammability (solid, gas)	Flashpoint (°C/°F):
161.40	no data available	11-27 °C/52-81 °F

Flash Point Tested according to: Closed cup

Upper Explosion Limit (%): 31%

Boiling point/range(°C/°F): 125 °C/257 °F

Specific gravity: 0.76-0.777 @ 25 °C

Evaporation rate: No information available

Odor threshold (ppm): No information available

Miscibility: No information available Autoignition Temperature (°C/°F): 325-330 °C/617-626 °F

Melting point/range(°C/°F): -80 °C/-112 °F

Bulk density: No information available

pH No information available

Vapor density: No information available

Partition coefficient (n-octanol/water): log Kow = 2.62

Solubility: Insoluble in water Soluble in Acetone Soluble in Benzene Soluble in Ether Soluble in Heptane Soluble in Perchloroethylene **Lower Explosion Limit (%):** 0.8%

Decomposition temperature(°C/°F): No information available

Density (g/cm3): No information available

Vapor pressure @ 20°C (kPa): 1.3 @ 20 deg. C 1.84 @25 deg. C

VOC content (g/L): No information available

Viscosity: No information available

10. STABILITY AND REACTIVITY

Reactivity No information available

Chemical stability	
Stability:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	- Hazardous polymerization does not occur
Conditions to avoid:	Heat. Ignition sources. Incompatible materials.
Incompatible Materials:	Acids Bases Oxidizing agents Water Strong reducing agents Amines Peroxides Alcohols isocyanates Phenols
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx). Silicon oxides. Ammonia gas may be liberated at high temperatures.
Other Information Corrosivity:	No information available
Product code: H1007	Product name: HEXAMETHYLDISILAZANE, REAGENT

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure: Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

Hexamethyldisilazane	
CAS No	999-97-3
LD50/oral/rat = 813 mg/kg Ora	al LD50 Rat
LD50/oral/mouse = No information	ation available
LD50/dermal/rabbit = 540 mg/	/kg Dermal LD50Rabbit; 1350 mg/kg; 710 ul/kg
LD50/dermal/rat = No informat	tion available
LC50/inhalation/rat = 8700 mg	g/m ³ Inhalation LC50 Rat 4 h; 1516 ppm 6 h
LC50/inhalation/mouse = No i	information available
Other LD50 or LC50information	n = No information available

Product Information

LD50/oral/rat = Value - Acute Tox = 850 mg/kg

LD50/oral/mouse = Value - Acute Tox Oral = No information available

LD50/dermal/rabbit Value - Acute Tox = 540 mg/kg

LD50/dermal/rat VALUE - Acute Tox Dermal = No information available

LC50/inhalation/rat VALUE-Vapor = 8.7 mg/l (4-hr) VALUE-Gas = No information available VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse VALUE-Vapor = No information available VALUE - Gas = No information available VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:	Causes severe irritation and burns. Toxic in contact with skin. Symptoms m include redness, burning pain, and swelling/inflammation of the skin. Absor into the skin may affect behavior/central nervous system (somnolence).	
Eye Contact:	Severe eye irritation. Causes burns. May cause corneal injury. Symptoms r	nay
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	include stinging, tearing, redness. May cause swelling (edema) of the conjunctiva.
Inhalation	Toxic by inhalation. Irritating to respiratory system. May cause chemical burns to the respiratory tract. May affect respiration (respiratory depression). It may affect behavior/central nervous system (general anesthetic). It may affect the cardiovascular system (change in pulse rate). Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, pneumonitis, and pulmonary edema.
Ingestion	Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. Causes digestive or gastrointestinal tract burns. May cause abdominal pain, nausea, vomiting, diarrhea. May cause difficulty breathing. May affect behavior/central nervous system (ataxia). May cause hyperexcitability followed by narcosis
-	
Aspiration hazard	No information available.
Delayed and immediate effects	as well as chronic effects from short and long-term exposure
Chronic Toxicity	Prolonged or repeated inhalation may affect the liver.
Sensitization:	No information available.
Mutagenic Effects:	No information available

Carcinogenic effects:

Not considered carcinogenic.

			Carcinogens		Carcinogens	Notifiable Carcinogenic Substances	Prohibited Carcinogenic Substances
Hexamethyldisilazane	999-97-3	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity	No data is available
Reproductive Effects:	No information available
Developmental Effects:	No information available
Teratogenic Effects:	No information available

Specific Target Organ Toxicity

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target Organs:	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects:	Aquatic environment.
Hexamethyldisilazane - 999-97-3 Fish Crustacea	LC50: =167mg/L (96h, Pimephales promelas) EC50: =186mg/L (48h, Daphnia magna)
Persistence and degradability:	No information available
Bioaccumulative potential:	Potential for bioconcentration in aquatic organisms is low.
Mobility in soil Other adverse effects	No information available No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products: Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Hexamethyldisilazane	999-97-3	None	None	None	None

14. TRANSPORT INFORMATION

DOT	
UN-No:	UN3286
Proper Shipping Name:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane)
Hazard Class	3
Subsidiary Class	6.1 8
Packing group:	II
Emergency Response Guide	131
Number	
Marine Pollutant	No data available
DOT RQ (lbs):	No information available
Special Provisions	IB2, T11, TP2, TP13, TP27
Symbol(s):	[DOT]: (G) - Identifies proper shipping names for which one or more technical names of the hazardous material must be entered in parentheses, in association with the basic description.
Description:	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II
TDG (Canada)	
UN-No:	UN3286
Proper Shipping Name:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane)
Hazard Class	3
Subsidiary Risk:	6.1, 8
Packing Group:	
Marine Pollutant	No Information available
Description:	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II
Description:	UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II

ADR

Product code: H1007

UN Number Proper Shipping Name: Transport hazard class(es) Packing group Subsidiary Risk: Special Provisions Description:	UN3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane) 3 II 6.1, 8 274 UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II
IMDG UN-No: Proper Shipping Name: Hazard Class: Subsidiary Risk: Packing Group: Marine Pollutant EMS: Special Provisions Description	UN3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane) 3 6.1, 8 II No information available F-E 274 UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (HEXAMETHYLDISILAZANE), 3 (6.1 8), II
RID UN Number Proper Shipping Name: Transport hazard class(es) Subsidiary Risk: Packing group Special Provisions Description:	UN3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane) 3 6.1, 8 II 274 UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II
ICAO (air) UN-No: Proper Shipping Name: Hazard Class Subsidiary Risk: Packing Group: Description:	UN3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane) 3 6.1, 8 II UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II
IATA UN Number Proper Shipping Name: Transport hazard class(es) Subsidiary Risk: Packing group Precautionary Statements - Response Special Provisions Description:	UN3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (hexamethyldisilazane) 3 6.1, 8 II 3CP No information available UN3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S., 3 (6.1 8), II

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
Hexamethyldisilazane	999-97-3	PresentACTIV E	Present KE-34695	Present	Present (9)-1324,(2)-2	Present	Present	Present 213-668-5
					955,(2)-2044			

U.S. Regulations

Hexamethyldisilazane

New Jersey RTK Hazardous Substance List: SN 4183

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male	Female
		-		Reproductive	Reproductive
				Toxicity	Toxicity:
Hexamethyldisilazane	999-97-3	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Hexamethyldisilaza	999-97-3	None	None	None	None	None
ne						

U.S. TSCA

Component		TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Hexamethyldisilazane	999-97-3	Not Applicable	10/12/199306/30/1998

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification The WHMIS 2015 classification of this product has not been validated or reviewed yet. Information:

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Hexamethyldisilazane	999-97-3	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Hexamethyldisilazane	999-97-3	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject
		to Mandatory Reporting
Hexamethyldisilazane	999-97-3	Not listed

Product code: H1007

Product name: HEXAMETHYLDISILAZANE, REAGENT

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)	
Hexamethyldisilazane	999-97-3	No information	

EU - CLP (1272/2008)

<u>R-phrase(s)</u>

Not determined

S -phrase(s)

none

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Hexamethyldisilazane	999-97-3	No information	No information	
The preduct is cleasified in cocordence with Appen VI to Directive 67/549/550				

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

not determined

16. OTHER INFORMATION

Preparation Date:	8/2/2017
Revision date	1/31/2019
Prepared by:	Sonia Owen
Disclaimer:	All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet