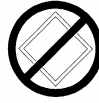


MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 1 of 9

Protective Clothing	HMIS Rating (USA)		EU Classification	WHMIS (Canada)	Transportation
	Health	1	 Irritant R36	 D2B- Other Toxic Effects	 Not Regulated
	Flammability	1			
	Reactivity	0			

Section 1: Product and Company Information

Product Name: GAS/SPEC* SS* Selective Solvent**Product Code:** 55540

Manufacturer: INEOS Oxide
 A division of INEOS Americas LLC
 2925 Briarpark, Suite 870
 Houston TX, 77042

Phone Number: (866) 865-4767**24-hour Emergency:** CHEMTREC: (800) 424-9300

* Indicates a Trademark of INEOS Oxide.

Section 2: Composition and Ingredient Information

Hazardous/Dangerous Ingredients:

Common Name	Chemical Name	CAS No.	EINECS / ELINCS	Wt. %	Symbol	R Phrases
MDEA-Methyldiethanolamine	2,2'-(methylimino)di-ethanol	105-59-9	203-312-7	99	Xi	R36

Non-Hazardous/Non-Dangerous Ingredients:

Common Name	Chemical Name	CAS No.	EINECS / ELINCS	Wt. %	Symbol	R Phrases
Water	Water	7732-18-5	231-791-2	0.1-0.5	None	None

Note: See Section 8 of this MSDS for exposure limit data for these ingredients.
 See Section 16 for the full text of the R-phrases above.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 2 of 9

Section 3: Hazards Identification**Preparation Hazards and Classification:**

Irritating to the eye.

USA: This product is a hazardous material as defined by 29 CFR1910.1200, OSHA Hazard Communication Evaluation.

Canada: This is a controlled product under WHMIS.

This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments. Preparation Classification: Xi – Irritant.

Appearance, Color and Odor:

Pale yellow liquid, amine odor.

Primary Route(s) of Exposure:

Inhalation, Ingestion, Eye contact, Skin contact

Potential Health Effects:**ACUTE (short term): see Section 8 for exposure controls****Inhalation:** At room temperature, exposures to vapors are minimal due to the physical properties. When heated, vapor concentrations may be generated that may cause adverse effects. Vapors or mists are irritating to the respiratory tract.**Ingestion:** Low oral toxicity, but swallowing large amounts can cause irritation of the digestive tract with abdominal and chest pain, nausea, vomiting and diarrhea.**Skin:** A single short-term exposure may be irritating to the skin. If skin is cut or scratched then irritation may be severe.**Eyes:** Direct contact with concentrated MDEA liquid will cause severe eye irritation. Serious damage may result if treatment is delayed.**CHRONIC (long term): see Section 11 for additional toxicological data****Inhalation:** Prolonged or repeated overexposure to mists or vapors may result in damage to the respiratory tract.**Skin:** Prolonged or repeated contact with concentrated MDEA may cause severe skin irritation and possibly second-degree burns.**Medical Conditions****Aggravated by Exposure:**

Repeated skin contact may aggravate an existing dermatitis. Repeated inhalation may aggravate respiratory conditions, such as asthma and bronchitis, and inflammatory or fibrotic pulmonary disease.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 3 of 9

Section 4: First Aid Measures

<u>Inhalation:</u>	Remove from exposure to fresh air immediately. Keep victim at rest. If breathing is difficult, trained personnel may administer oxygen. If breathing has stopped, give artificial respiration. Get immediate medical attention.
<u>Eye Contact:</u>	Immediately flush the contaminated eye(s) with lukewarm flowing water for at least 20 minutes while holding the eyelids open. Neutral saline rinsing solution may be used as soon as it is available. Do not interrupt flushing. Take care not to rinse contaminated water into the unaffected eye or the face. Get immediate medical attention.
<u>Skin Contact:</u>	Immediately flush the affected areas with plenty of flowing water or a safety shower for at least 20 minutes. Remove contaminated clothing and shoes while flushing. Do not interrupt flushing. Seek immediate medical attention if irritation persists or if blistering occurs.
<u>Ingestion:</u>	DO NOT INDUCE VOMITING. Get immediate medical attention. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration; rinse the mouth. Quickly transport the victim to an emergency care facility. Never give anything by mouth if victim is unconscious, rapidly losing consciousness or convulsing.

Section 5: Fire Fighting Measures

<u>Flash Point and Method (°C):</u>	>132°C (>270°F) COC
<u>Flammability Limits (%):</u>	LFL: Not available UFL: Not available
<u>Auto Ignition Temperature (°C):</u>	Not available
<u>Extinguishing Media:</u>	Water fog or fine spray, carbon dioxide, alcohol-resistant foam or dry chemical. Use water spray to cool fire-exposed containers. Violent steam generation or eruption may occur upon application of direct water stream.
<u>Unusual Fire and Explosion Hazards:</u>	Sensitivity to mechanical impact: Not applicable Sensitivity to static discharge: Not applicable Spills of these organic liquids on hot fibrous insulations may lead to lowering of the auto-ignition temperature possibly resulting in spontaneous combustion.
<u>Fire Fighting Instructions:</u>	Evacuate the area and fight fire from a safe distance or a protected location. Approach the fire from upwind to avoid hazardous vapors. Burning liquids may be extinguished by dilution with water. Do not use direct water stream, it may spread fire. Water spray may be used to flush spills away from ignition sources. Avoid all contact with this material during fire fighting operations. Wear chemical resistant clothing (chemical splash suit) and positive-pressure self-contained breathing apparatus. Contain water run-off if possible.
<u>Hazardous Combustion Products:</u>	During a fire smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: nitrogen oxides, carbon monoxide, carbon dioxide.
<u>Other Flammability Information:</u>	This material can burn if strongly heated.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 4 of 9

Section 6: Accidental Release Measures**Personal Precautions:** Wear adequate personal protective equipment.**Air Release:** Evacuate the area. Ventilate the area. Extinguish or remove all ignition sources. Wear adequate personal protective equipment. Notify occupational and environmental authorities.**Land Spill:** Isolate the area; keep people away. Do not touch spilled material. Clean up should be conducted by trained personnel only. Wear adequate personal protective equipment. Ventilate the area. Extinguish or remove all ignition sources. Prevent the material from entering sewers, groundwater or surface water. Contain the spill with earth, sand or suitable absorbent. Put material in suitable, covered, labeled containers. Contaminated absorbent may pose the same hazards as the spilled product. Flush the area with water. Notify occupational and environmental authorities.**Water Spill:** Contain spills to prevent contamination of surface water and ground water. Notify occupational and environmental authorities.**Section 7: Handling and Storage****Storage Temperature:** Store in a cool, dry, well-ventilated area away from sunlight, heat and ignition sources.**Storage Pressure:** Not available**General:** **Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Ensure that engineering controls are operating and that protective equipment requirements are being followed. Avoid generating vapors and mists.

Inspect containers for leaks before handling. Prevent damage to containers. Keep containers closed when not in use. Assume that empty containers contain residues which are hazardous.

Do not use with incompatible materials (see Section 10).

Discard all contaminated leather items such as watchbands, shoes and belts.

Storage: Keep storage area away from work areas. Store away from incompatible materials (see Section 10).**Section 8: Exposure Controls and Personal Protection**

<u>Ingredient</u>	<u>ACGIH TLV</u> <u>(8-hr. TWA)</u> <u>(mg/m³)</u>	<u>U.S. OSHA PEL</u> <u>(8-hr. TWA)</u> <u>(mg/m³)</u>	<u>Ontario (Canada)</u> <u>TWAEV</u> <u>(mg/m³)</u>	<u>UK OEL</u> <u>(8-hr. TWA)</u> <u>(mg/m³)</u>
MDEA	Not established	Not established	Not established	Not established

Engineering Controls: Good general ventilation is normally sufficient. In places where vapors or mists of this material are created, local exhaust ventilation is recommended. Ventilation system should be made of corrosion-resistant material.**Hygiene Measures:** Remove contaminated clothing promptly. Keep contaminated clothing in closed containers; discard or launder before rewearing. Do not eat, drink or smoke in work areas. Wash hands thoroughly and promptly after handling this material.**Personal Protection****Respiratory Protection:** Respiratory protection should not be necessary unless the product is heated to release vapors or a mist is created. If airborne vapor or mist exposure is likely wear a NIOSH/MSHA approved full-face mask, self-contained breathing apparatus.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 5 of 9

Section 8: Exposure Controls and Personal Protection, continued

Skin Protection: Wear chemical protective gloves, coveralls and boots. Protective clothing should be made of butyl rubber, neoprene, nitrile rubber or Viton™. If skin is scratched or cut, impervious gloves must be worn even for brief exposures.

Eye Protection: Wear chemical safety goggles. If splashing is possible wear a face shield.

Other: Have a safety shower and eye-wash fountain readily available in the immediate work area.

Section 9: Physical and Chemical Properties

Physical State:	Liquid, viscous	Vapor Pressure: (mm Hg @ 20°C)	<1 mmHg @ 25C
Appearance:	Pale yellow	Vapor Density: (Air = 1)	4
pH:	Strong base	Solubility in Water:	Complete
Specific Gravity: (water = 1)	1.04-1.06 @ 25°C	Water / Oil distribution coefficient:	Not available
Boiling Point:	240-255°C (464-491°F)	Odor Type:	Amine odor
Freezing Point:	Not available	Evaporation Rate: (n-Butyl Acetate = 1)	Not available
Viscosity:	Not available		

Section 10: Stability and Reactivity

Stability: Stable under normal temperature and pressure.

Incompatible Materials and Product can decompose at elevated temperatures.

Conditions to Avoid:

Avoid direct sunlight.

Avoid contact with nitrites, strong acids, strong oxidizing agents and halogenated hydrocarbons.

Hazardous Decomposition Products: Decomposition products may include nitrogen oxides, ammonia, irritating aldehydes and ketones. Hazardous decomposition products depend upon temperature, air supply and the presence of other materials.

Hazardous Polymerization: Mixing with nitrite containing materials may cause nitrosamine formation.

Other Reactivity Concerns: Contact with nitrosating agents, under acidic conditions such as nitrous acid, nitrite or nitrogen oxides, can form nitrosamines some of which are potent carcinogens.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 6 of 9

Section 11: Toxicological Information

Carcinogenicity: The table below indicates whether or not each agency has listed each ingredient as a carcinogen.

<u>Ingredient</u>	<u>ACGIH</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
MDEA	Not listed	Not listed	Not listed	Not listed

Carcinogenicity Designations:

ACGIH: American Conference of Governmental Industrial Hygienists

IARC: International Agency for Research on Cancer

NTP: National Toxicity Program

OSHA: Occupational Safety and Health Administration

Acute Toxicity Data:

<u>Ingredient</u>	<u>LD₅₀ Oral</u> (mg/kg)	<u>LD₅₀ Dermal</u> (mg/kg)	<u>LC₅₀ Inhalation</u> (mg/m ³ , 4 hrs.)
MDEA	1 945 (rat)	5 990 (rabbit)	Not available

Irritation: Severely irritating to eyes; prolonged contact is irritating to the skin. Inhalation of mists or vapors is irritating to the respiratory tract.

Sensitization: Not available

Neurological Effects: Not available

Teratogenicity: Not available

Reproductive Toxicity: Not available

Mutagenicity (Genetic Effects): Not available

Toxicologically Synergistic Materials: MDEA may react with nitrites, under acid conditions to form nitrosamines some of which are potent carcinogens.

Section 12: Ecological Information

Ecotoxicity: Product is practically non-toxic to aquatic organisms on an acute basis.
Acute 96 hour LC₅₀ for Fathead Minnow (*Pimephales promelas*) is 1200 mg/L.
Acute 96 hour LC₅₀ for water flea (*Daphnia magna*) is 250 mg/L.
Growth inhibition EC50 for marine copepod *Arcatia tonsa* is 84 mg/L.

Mobility: Not available

Persistence and degradability: Product is expected to biodegrade readily under aerobic conditions.
Theoretical Oxygen Demand (ThOD) is calculated to be 2.29 p/p.
28-Day Biochemical Oxygen Demand (BOD28) is 30-59% of ThOD.
5-Day Biochemical Oxygen Demand (BOD5) is below detectable limits.
Biodegradation reached in Closed Bottle test (OECD Test No. 301 D) after 28 days is 0%.
Biodegradation rate may increase in soil and/or water with acclimation.

Bioaccumulative potential: Bioconcentration potential is low (BCF <100; and log P_{ow} <3). Log P_{ow} is estimated using the Pomona-MedChem structural fragment method to be -1.202.

Germany; Water Hazard Classes: MDEA is in Hazard class 1, low hazard to waters.

Other: For detailed Ecological data, write to the address in Section 1 or call INEOS Oxide's Customer Information Center at (866) 865-4767.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 7 of 9

Section 13: Disposal Considerations

Waste Disposal Method: DO NOT dump into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage. For unused, uncontaminated product, the preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator or other thermal destruction device.

USA: Dispose of in accordance with local, state and federal laws and regulations.
RCRA: None listed

Canada: Dispose of in accordance with local, provincial and federal laws and regulations.

Europe: Waste must be disposed of in accordance with relevant EU Directives and national, regional and local environmental control regulations. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

Other: Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. INEOS Oxide HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2.

As a service to its customers, INEOS Oxide can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone INEOS Oxide's Customer Information Center at (866) 865-4767.

Section 14: Transport Information

U.S. Hazardous Materials Regulation (DOT 49CFR): Not Regulated

Canadian Transportation of Dangerous Goods (TDG): Not Regulated

ADR/RID: Not Regulated

IMDG: Not Regulated

Marine Pollutants: Not Regulated

ICAO/IATA: Not Regulated

Other: For regulatory information regarding transportation, if required, consult product shipping papers, or your INEOS Oxide representative.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 8 of 9

Section 15: Regulatory Information**HMIS and NFPA Hazard Rating:**

Category	HMIS	NFPA
Acute Health	1	1
Flammability	1	1
Reactivity	0	0

USA**TSCA Status:** Methyldiethanolamine CAS# 105-59-9 is listed on the TSCA inventory.**SARA Title III:**

Sec. 302/304: None of the chemicals in this product have a TPQ.

Sec. 311/312: Immediate Health Hazard; Delayed Health Hazard.

Sec. 313: None

CERCLA None

Right to Know: MDEA is not found on state right to know lists.**Clean Air Act:** None**Clean Water Act:** None of the chemicals in this product are listed as Hazardous Substances, Priority Pollutants or Toxic Pollutants under the CWA.**Canada**This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.**WHMIS Classification:** D2B – Material Causing Other Toxic Effects (toxic) – due to eye, respiratory and skin irritation.**NSNR Status (New Substance Notification Regulations):** All ingredients are listed on Canada's Domestic Substances List (DSL).**NPRI Substances (National Pollutant Release Inventory):** There are no NPRI reportable substances in this product.**EU Classification:****Symbol:**

Irritant

Risk Phrases: R36: Irritating to eyes.**Safety Phrases:** S24: Avoid contact with skin.

MATERIAL SAFETY DATA SHEET

Product Name: GAS/SPEC* SS* Selective Solvent

MSDS #: INEOS Oxide 55540

Page # 9 of 9

Section 16: Other Information**Full Text of R-phrases appearing in Section 2:**

R36: Irritating to eyes.

Text of classifications appearing in Section 2:

Xi - Irritant

Preparation Information:**Prepared by:**

LEHDER Environmental Services Limited
704 Mara Street, Suite 210
Pt. Edward, ON
N7V 1X4
www.lehder.com

Phone:

(519) 336-4101

Preparation date:

November 28, 2004

Disclaimer:

While LEHDER Environmental Services Limited believes that the data set forth herein is accurate, as of the date hereof, LEHDER makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.

Manufacturer Disclaimer:

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.