

received 12/08/2016
 Spill 448622

SAFETY DATA SHEET

Section 1: Identification of the Substance/Preparation and of the Company/Undertaking

Product Name: GAS/SPEC* CS-Plus* Solvent
Product Code: 13693
Product Use: Solvent
Manufacturer: INEOS Oxide
 Block 5501
 21255 A Louisiana Hwy. 1 South
 Plaquemine, LA
 70764
Phone Number: (866) 865-4767

* Indicates a Trademark of INEOS Oxide.

Section 2: Hazards Identification

NFPA (USA)	WHMIS Classification (Canada)	Transport Symbol	Personal Protective Equipment
 (Estimated)	 B3 E		

Emergency Overview: Harmful in contact with skin and if swallowed. Corrosive, causes severe skin burns and eye damage. Combustible liquid.

Appearance, Color and Odor: Pale straw colored, viscous liquid, fish-like amine odor.

USA: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Canada: This is a controlled product under WHMIS.

Potential Health Effects: **ACUTE (short term): see Section 8 for exposure controls**

Relevant Route(s) of Exposure: Eye Contact, Skin Contact, Inhalation, Ingestion

Inhalation: At room temperature, exposures to vapors are minimal due to the physical properties. When heated, vapor concentrations may be generated that can cause adverse effects. Overexposure to airborne vapors or mists may cause severe irritation to the respiratory tract. Symptoms of exposure may include coughing, wheezing, shortness of breath, difficult breathing, headache, nausea, vomiting and chest pain. High concentrations of vapor or mist may cause burns to the respiratory tract.

Ingestion: Component substances have low oral toxicity, but swallowing large amounts can cause severe irritation and burns of the digestive tract with abdominal and chest pain, nausea, vomiting and diarrhea. Due to the corrosive nature of the secondary amino alcohol, aspiration during ingestion or vomiting could result in lung injury.

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Section 2: Hazards Identification, continued

Skin: Direct contact with the product causes severe irritation with local discomfort or pain, severe excess redness and swelling with chemical burns, blister formation and possible tissue destruction. Prolonged skin contact may result in the absorption through the skin of harmful amounts of the amino alcohol.

Eye: Direct contact with the product will cause severe eye irritation or chemical burns. Serious damage, even blindness, may result if treatment is delayed.

CHRONIC (long term): see Section 11 for additional toxicological data

Repeated exposures by ingestion, inhalation and skin contact to high concentrations may cause liver and kidney damage. Effects may be delayed.

Prolonged or repeated overexposure to mists or vapors may result in damage to the respiratory tract.

Prolonged or repeated skin contact with product 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.

Interactions With Other Chemicals:

Amino alcohol ingredients in this product may react with nitrites, under acid conditions to form nitrosamines some of which are potent carcinogens.

Potential Environmental Effects:

See Section 12.

Section 3: Composition / Information on Ingredients**Hazardous Ingredients:**

<u>Common Name</u>	<u>Chemical Name</u>	<u>CAS No.</u>	<u>Wt.%</u>
Trade Secret Secondary Amino Alcohol	Proprietary	HMIRC RN 7287**	30-40
MDEA	Methyldiethanolamine	105-59-9	60-70

Non-Hazardous Ingredients:

<u>Common Name</u>	<u>CAS No.</u>	<u>Wt.%</u>
Water	7732-18-5	1-4

Notes: **HMIRC (Canada - Hazardous Materials Information Review Commission) April 10, 2008
See Section 8 of this SDS for exposure limit data for these ingredients.

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Section 4: First Aid Measures

Inhalation:	Remove source of contamination or move victim to fresh air. If breathing is difficult trained personnel should administer emergency oxygen. Do Not allow victim to move about unnecessarily. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure. Quickly transport victim to an emergency care facility.
Eye Contact:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. Do not interrupt flushing. If necessary, keep emergency vehicle waiting. Take care not to rinse contaminated water into the unaffected eye or onto face. Quickly transport victim to an emergency care facility.
Skin Contact:	Quickly and gently, blot or brush away excess chemical. Remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Flush contaminated area with lukewarm, gently flowing water for at least 60 minutes, by the clock. Do not interrupt flushing. If necessary, keep emergency vehicle waiting. Transport victim to an emergency care facility immediately. Discard contaminated clothing, shoes and leather goods.
Ingestion:	Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Quickly transport victim to an emergency care facility.

Section 5: Fire Fighting Measures

Flammable Properties:	Combustible liquid (Flash point = 88.9°C (192°F) PMCC). Product will burn if heated.						
Suitable extinguishing Media:	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.						
Unsuitable extinguishing Media:	Solid water jet ineffective as extinguishing media.						
Explosion Data:	Above 88.9°C explosive vapor/air mixtures may be formed. Sensitivity to Mechanical Impact: Not applicable Sensitivity to Static Discharge: Not available						
Specific Hazards arising from the Chemical:	Spills of these organic liquids on hot fibrous insulations may lead to lowering of the auto-ignition temperature possibly resulting in spontaneous combustion. 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.						
Protective Equipment and precautions for firefighters:	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.						
NFPA (estimated)	<table><tr><td>Health:</td><td>3</td></tr><tr><td>Flammability:</td><td>2</td></tr><tr><td>Instability:</td><td>0</td></tr></table>	Health:	3	Flammability:	2	Instability:	0
Health:	3						
Flammability:	2						
Instability:	0						

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Section 6: Accidental Release Measures

Personal Precautions: Isolate the area; keep all unprotected people away from the spill area. Ventilate the area. Wear all proper personal protective equipment as indicated in Section 8. Prevent inhalation exposures, skin contact and possible eye contact. Ensure clean-up is conducted by trained personnel only. Do not touch or walk through the spilled material. Extinguish or remove all ignition sources. Spilled material may pose a slipping hazard.

Environmental Precautions: Prevent material from contaminating soil and from entering sewers or waterways.

Methods for Containment: Isolate the spill area. Stop the spill if it is safe to do so. Contain the spill with earth, sand or suitable absorbent. Keep materials which can burn away from spilled product. Do not absorb with sawdust, woodchips or other cellulose materials.

Methods for Clean-up: Clean up spills immediately. Scoop up spilled product and any contaminated absorbents into appropriate, labeled containers. Contaminated absorbent may pose the same hazards as the spilled product. Flush the area with water.

Section 7: Handling and Storage

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 mists and vapors.

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, e.g. brass (see Section 10).

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

Use non-sparking tools and lighting systems. Post NO SMOKING signs. Never perform any welding, cutting, soldering, drilling or other hot work on an empty vessel, container or piping until all liquid and vapors have been cleared.

Storage: Store locked up. Store in a cool, dry, well-ventilated area away from sunlight, heat and ignition sources. Keep storage area away from work areas. Store away from incompatible materials (see Section 10). Do not store in containers made of copper, brass or other copper alloys, zinc or galvanized iron. Keep containers tightly closed.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
 Consult local authorities for acceptable exposure limits.

<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) TWAEV</u> <u>(mg/m³)</u>
Trade Secret Secondary Amino Alcohol	Not established	Not established	Not established
MDEA	Not established	Not established	Not established

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Section 8: Exposure Controls/Personal Protection, continued**Exposure Controls**

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.

Personal Protection:

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

Skin Protection: Wear chemical protective gloves, coveralls and boots. Protective clothing should be made of butyl rubber, neoprene, nitrile rubber or Viton™, contact safety supplier for specifications.

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. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or Canadian Standards Association (CSA) Standard Z94.4-02 must be followed whenever workplace conditions warrant a respirator's use.

Other Protective Equipment: Have a safety shower and eye-wash fountain readily available for emergency use.

General 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. Maintain good housekeeping. Inform laundry personnel of contaminant's hazards.

Section 9: Physical and Chemical Properties

Physical State:	Liquid	Flash Point & method:	88.9°C (192°F) PMCC
Appearance, Color and Odor:	Pale straw colored, viscous, fish-like amine odor.	Autoignition Temperature:	Not available
Odor Threshold:	Not available	Flammability Limits in Air:	Not available
pH:	10.98	Vapor Pressure:	<0.5 mmHg @ 25°C
Relative density: (water = 1)	1.01 at 25°C	Vapor Density: (Air = 1)	3.5
Partition coefficient: (n-octanol/water)	Not available	Evaporation Rate: (n-Butyl Acetate = 1)	Not available
Solubility:	Completely soluble in water	Boiling Point/Range:	183°C (361°F)
Viscosity:	46.39 centipoises @ 25°C	Freezing Point:	-23.1°C (73.6°F)
Decomposition Temperature:	Not available		

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Section 10: Stability and Reactivity

Chemical Stability:	Stable under normal temperature and pressure.
Conditions to Avoid:	Avoid high temperatures and contact with sources of ignition. Avoid direct sunlight.
Incompatible Materials:	Avoid contact with copper and copper alloys. Avoid contact with nitrites, strong acids and strong oxidizing agents.
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.
Possibility of Hazardous Reactions:	Absorbs moisture and can react with carbon dioxide in the air to form salts. It is decomposed by light and slowly oxidized by air, turning yellow and then brown. This reaction is accelerated by heat and the presence of metals. Corrosive to copper, brass, bronze and other copper alloys, zinc and galvanized iron. Contact with nitrosating agents, under acidic conditions such as nitrous acid, nitrite or nitrogen oxides, can form nitrosamines some of which are potent carcinogens.

Section 11: Toxicological InformationAcute Toxicity Data

	<u>LD₅₀ Oral</u> (mg/kg)	<u>LD₅₀ Dermal</u> (mg/kg)	<u>LC₅₀ Inhalation</u> (4 hrs.)
Trade Secret Secondary Amino Alcohol	> 500 (rat)	> 1 000 (rabbit)	> 2 500 (rat)
MDEA	1 900 (rat)	5 990 (rabbit)	Not available

Chronic Toxicity Data

Carcinogenicity:	Not available for the product. None of the agencies listed below have classified the component substances as carcinogens.
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	<u>ACGIH</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
Trade Secret Secondary Amino Alcohol	Not listed	Not listed	Not listed	Not listed
MDEA	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: (US Occupational Safety and Health Administration)

Irritation:	Severely irritating to eyes, skin and mucous membranes; causes chemical burns.
Corrosivity:	Causes burns.
Sensitization:	Not available
Neurological Effects:	Not available
Genetic Effects:	Not available
Reproductive Effects:	Exposure to high concentrations may cause fetal toxicity.
Developmental Effects:	Not available
Target Organ Effects:	Repeated exposures by ingestion, inhalation and skin contact to high concentrations may cause liver and kidney damage. Effects may be delayed.

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Section 12: Ecological Information

Ecotoxicity:	For MDEA, low toxicity to aquatic organisms on an acute basis. Acute 96 hour LC ₅₀ for Fathead Minnow (<i>Pimephales promelas</i>) is 1200 mg/L. Acute 96 hour LC ₅₀ for water flea (<i>Daphnia magna</i>) is 250 mg/L. Growth inhibition EC50 for marine copepod <i>Arcatia tonsa</i> is 84 mg/L.
Persistence/Degradability:	For MDEA, 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.
Bioaccumulation/Accumulation:	For MDEA, 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.
Mobility:	Not available. Product is soluble in water.
Other adverse effects:	For detailed Ecological data, write to the address in Section 1 or call INEOS Oxide's Customer Information Center at (866) 865-4767.

Section 13: Disposal Considerations

<u>Waste Disposal Method:</u>	DO NOT discharge 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.
<u>USA:</u>	Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of in accordance with local, state and federal laws and regulations.
<u>Canada:</u>	Dispose of in accordance with local, provincial and federal laws and regulations.
<u>Other:</u>	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 SDS 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.

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Section 14: Transport Information:

<u>U.S. Hazardous Materials Regulation (DOT 49CFR):</u>	UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (Secondary Amino Alcohol), 8, PG II
<u>Canadian Transportation of Dangerous Goods (TDG):</u>	UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (Secondary Amino Alcohol), 8, PG II
<u>ADR/RID:</u>	UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (Secondary Amino Alcohol), 8, PG II
<u>IMDG:</u>	UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (Secondary Amino Alcohol), 8, PG II
<u>Marine Pollutants:</u>	None
<u>ICAO/IATA:</u>	UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. (Secondary Amino Alcohol), 8, PG II

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

Section 15: Regulatory Information**USA**

TSCA Status: All component substances are listed in the TSCA inventory

SARA Title III

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

Sec. 311/312: Acute; Chronic; Flammable

Sec. 313: None

CERCLA RQ: None

Canada

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations*.

WHMIS Classification: B3 – Combustible liquid
E - Corrosive

NSNR Status: All component substances are listed on Canada's Domestic Substances List (DSL).

NPRI Substances: There are no NPRI reportable substances in this product.

Other International Inventories:

Australia: Component substances are listed on Australian Inventory of Chemical Substances.

China: Component substances are listed on the inventory.

European Union Inventory: Component substances are listed on the EINECS Inventory.

Japan: Component substances are listed on the inventory of Existing and New Chemical Substances (ENCS).

Korea: Component substances are listed on the inventory of Existing and Evaluated Chemical Substances.

New Zealand: Component substances are listed on the inventory.

Philippines: Component substances are listed on the Inventory of Chemicals and Chemical Substances (PICCS).

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Section 16: Other Information

Prepared by:	LEHDER Environmental Services Limited www.lehder.com
Revision date:	June 4, 2008
Revision summary:	October 1, 2006: Section 1; updated Manufacturer address. Section 4; updated first aid information, Section 6; updated spill information, Section 14; revision to DOT reporting. June 4, 2008: Updated SDS format, Section 3, Updated HMIRC claim number. Section 4, updated first aid information.
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