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## Product Safety Assessment

### SELEXOL™ Solvents

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#### Product Overview

- SELEXOL™ Solvents are a yellow to light brown liquid with a mild odor. For further details, see [Product Description](#).
- SELEXOL™ Solvents are designed to effectively and economically remove carbon dioxide (CO<sub>2</sub>), hydrogen sulfide (H<sub>2</sub>S), carbonyl sulfide (COS), and mercaptans from natural and synthetic gas streams. It is used in a variety of gas-treating applications.<sup>1</sup> For further details, see [Product Uses](#).
- Prolonged skin contact may cause slight skin irritation with local redness, but is unlikely to result in absorption of harmful amounts. Prolonged, excessive inhalation exposure to vapor is unlikely given the low vapor pressure of SELEXOL Solvents, although adverse effects may be noted if the material is sprayed as an aerosol. This product has low toxicity if swallowed. Central nervous system effects have been reported at doses many times higher than any dose levels expected from recommended use. In animal testing, effects have been reported on the testes.<sup>2</sup> For further details, see [Health Information](#).
- SELEXOL Solvents are used in industrial processes. Exposure can occur either in a manufacturing facility or in the various gas-processing facilities that use this product.<sup>2</sup> For further details, see [Exposure Potential](#).
- SELEXOL Solvents are stable at recommended storage and use temperatures but can decompose at elevated temperatures. Avoid contact with strong acids and strong oxidizers.<sup>2</sup> For further details, see [Physical Hazard Information](#).
- SELEXOL Solvents are inherently biodegradable, unlikely to accumulate in the food chain, and is practically nontoxic to fish and other aquatic organisms. For further details, see [Environmental Information](#)

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#### Manufacture of Product

- **Capacity** – Dow produces this material at facilities in Texas (USA) and Western Europe.
- **Process** – SELEXOL™ Solvents are a polyethylene glycol dimethyl ether. It is produced by an etherification reaction using polyethylene glycols.

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## Product Description<sup>2</sup>

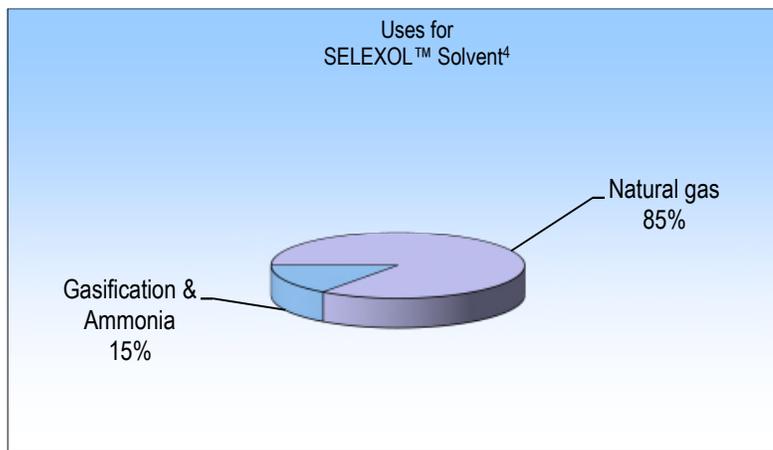
SELEXOL™ Solvents are a yellow to light brown liquid with a mild odor. It is a mixture of relatively low molecular weight dimethyl ethers produced from polyethylene glycol.

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## Product Uses<sup>1,3,4</sup>

SELEXOL™ Solvents are designed to effectively and economically remove carbon dioxide (CO<sub>2</sub>), hydrogen sulfide (H<sub>2</sub>S), carbonyl sulfide (COS), and mercaptans from natural and synthetic gas streams. It is used in a variety of gas-treating applications, including:

- Purification of lean natural gas
- Low energy ammonia/urea production
- Coal gasification
- Heavy oil partial oxidation
- Landfill gas purification
- Light hydrocarbon dew point control



SELEXOL solvent is particularly effective in high-pressure, low temperature, high-acid gas systems.

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## Exposure Potential<sup>2</sup>

SELEXOL™ Solvents are used in industrial processes. Based on the uses for this product, the public could be exposed through:

- **Workplace exposure** – Exposure can occur either in a manufacturing facility for SELEXOL Solvents or in the various gas-processing facilities that use this product. This material is produced, distributed, stored, and consumed in closed systems. Those working with this material in manufacturing operations or gas-processing facilities could be exposed during maintenance, sampling, testing, or other procedures. Each manufacturing or processing facility should have a thorough training program for employees and appropriate work processes, ventilation, and safety equipment in place to limit unnecessary exposure. See [Health Information](#).
- **Consumer exposure to products containing SELEXOL Solvents** – Dow does not sell this product for direct consumer use. Consumer contact is unlikely. See [Health Information](#).
- **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface or ground water. Respiratory protection is necessary for cleaning up spills and leaks. For small spills, this product should be absorbed with noncombustible materials such as clay, vermiculite, or Zorb-all. Do not use organic absorbents such as corn cobs, peat moss, cellulose, or sawdust. The substance is soluble and once introduced to water, it will tend to remain in water. SELEXOL Solvents are inherently biodegradable and will be removed by sewage treatment plants. See [Environmental](#) and [Physical Hazard Information](#).
- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, the material should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Keep upwind of the spill and ventilate the area. Positive-pressure, self-contained breathing apparatus (SCBA) with an approved full-

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face mask is recommended for emergency work. See [Health](#) and [Physical Hazard Information](#).

- **In case of fire** – Deny any unnecessary entry into the area. Use water fog or fine spray, dry-chemical or carbon-dioxide extinguishers, or foam to fight the fire. Alcohol-resistant foams are preferred. Consider the use of unmanned hose holders or monitor nozzles. Use of a direct water stream may spread fire. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) with an approved full-face mask and protective firefighting clothing. In case of rising sounds from venting safety devices or discoloration of the container, immediately withdraw all personnel from the area. Follow emergency procedures carefully. See [Physical Hazard Information](#).

For more information, see the relevant [Safety Data Sheet](#).

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## Health Information<sup>2</sup>

**Eye and skin contact** – SELEXOL™ Solvents are essentially nonirritating to the eyes. Prolonged skin contact may cause slight skin irritation with local redness, but is unlikely to result in absorption of harmful amounts.

**Inhalation** – Brief inhalation exposure is not likely to cause adverse effects. Prolonged, excessive inhalation exposure may cause adverse effects.

**Ingestion** – This product has low toxicity if swallowed. Small amounts swallowed incidental to normal handling are not likely to cause injury; however, larger amounts may cause injury. Central nervous system and testicular effects have been reported at doses many times higher than any dose levels expected from recommended use.

**Repeated exposure** – In animal testing, effects have been reported on the testes. SELEXOL Solvents may also cause central nervous system effects.

**Other** – In animal testing, this product has been toxic to the fetus at doses toxic to the mother. Excessive exposure may interfere with reproduction.

For more information, see the relevant [Safety Data Sheet](#).

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## Environmental Information<sup>2</sup>

SELEXOL™ Solvents are of low volatility and is miscible in water. Once introduced to water, the chemical will tend to remain in water. It has low potential to bind to soil or sediment.

SELEXOL Solvents are inherently biodegradable under aerobic conditions and will be removed by sewage treatment plants.

SELEXOL Solvents are not likely to accumulate in the food chain (bioconcentration potential is low) and is practically nontoxic to fish and other aquatic organisms on an acute basis.

For more information, see the relevant [Safety Data Sheet](#).

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## Physical Hazard Information<sup>2</sup>

SELEXOL™ Solvents are stable at recommended storage and use temperatures, but can oxidize or decompose at elevated temperatures. Generation of gas during decomposition can cause pressure build-up in closed systems. Do not distill to dryness. Avoid contact with strong acids and strong oxidizers.

For more information, see the relevant [Safety Data Sheet](#).

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## Regulatory Information

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of SELEXOL™ Solvents. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant [Safety Data Sheet](#), [Product Information Sheet](#), or [Contact Us](#).

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## Additional Information

- Safety Data Sheet (<http://www.dow.com/webapps/msds/msdssearch.aspx>)
- Contact Us (<http://www.dow.com/gastreating/contact/index.htm> or <http://oilandgas.dow.com/contact/>)
- SELEXOL™ Solvent for Gas Treating, Product Information, The Dow Chemical Company, Form No. 170-01432-0704, July 2004 ([http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh\\_0043/0901b803800430d0.pdf?filepath=gastreating/pdfs/noreg/170-01432.pdf&fromPage=GetDoc](http://msdssearch.dow.com/PublishedLiteratureDOWCOM/dh_0043/0901b803800430d0.pdf?filepath=gastreating/pdfs/noreg/170-01432.pdf&fromPage=GetDoc))
- Dow Oil and Gas Business: Gas Treating Products and Services web site (<http://www.dow.com/gastreating/> or <http://oilandgas.dow.com/>)
- Dow Gas Treatment Products and Services, The Dow Chemical Company, Form No.170-00250-018-E-703, July 2003
- For more business information about SELEXOL™ solvent, visit Dow's Oil and Gas web sites at <http://www.dow.com/gastreating/> or <http://oilandgas.dow.com/>.

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## References

- <sup>1</sup> SELEXOL™ Solvent for Gas Treating, Product Information, The Dow Chemical Company, Form No. 170-01432-0704, July 2004, page 1.
- <sup>2</sup> SELEXOL™ Solvent Material Safety Data Sheet, The Dow Chemical Company
- <sup>3</sup> Dow Gas Treatment Products and Services, The Dow Chemical Company, Form No.170-00250-018-E-703, July 2003, page 10.
- <sup>4</sup> Estimates by The Dow Chemical Company.

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NOTICES:

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