

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: DYNOL 360

Chemical name:
Thioether

Other means of identification

CAS Number: 928768-73-4

Recommended restrictions

Recommended use: Industrial Use

Restrictions on use: None known.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Corporation
Nutrition & Care
PO Box 34628
Richmond, VA 23234
USA

Telephone : +1 804 727 0700

Fax : +1 804 727 0845

E-mail : us-productsafety-cs@evonik.com

Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)

Emergency : +1 800 681 9531 (CHEMTREC MEXICO)

+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Inhalation)

Category 4

Serious eye irritation

Category 2A

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: Causes serious eye irritation.
Harmful if inhaled.

Precautionary Statements

Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Wash hands thoroughly after handling.

Response: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:

Thioether

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
1-Octanol, reaction products with epichlorohydrin and 2-mercaptoethanol		928768-73-4	>60%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information: Immediately remove contaminated clothing.

Inhalation: Ensure supply of fresh air. In the event of symptoms seek medical advice.

Skin Contact: In case of contact with skin wash off with soap and water. In the event of symptoms seek medical advice.

Eye contact:	In case of contact with eyes rinse thoroughly with plenty of water. If symptoms persist, seek medical advice.
Ingestion:	Thoroughly clean the mouth with water In the event of symptoms seek medical advice.
Personal Protection for First-aid Responders:	Do not inhale explosion and/or combustion gases, Use self-contained breathing apparatus and wear protective suit

Most important symptoms/effects, acute and delayed

Symptoms:	Serious eye irritation
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.
-------------------	------------------------

5. Fire-fighting measures

General Fire Hazards:	Collect contaminated firefighting water separately, must not be discharged into the drains.
------------------------------	---

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	foam, carbon dioxide, dry powder, water spray.
Unsuitable extinguishing media:	Full water jet

Specific hazards arising from the chemical:	In the event of fire the following can be released: - carbon dioxide, carbon monoxide Under certain conditions of combustion traces of other toxic substances cannot be excluded
--	--

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No specific precautions.
Special protective equipment for fire-fighters:	Do not inhale explosion and/or combustion gases Use self-contained breathing apparatus and wear protective suit

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment.
Methods and material for containment and cleaning up:	Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with the regulations.

Environmental Precautions: Do not allow to enter drains or waterways Do not discharge into the subsoil/soil.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): No data available.

Safe handling advice: Provide good ventilation of working area (local exhaust ventilation if necessary). Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes.

Contact avoidance measures: No data available.

Hygiene measures: Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when working. Remove soiled or soaked clothing immediately.

Storage

Safe storage conditions: Keep container tightly closed in a cool, well-ventilated place. Do not store together with oxidizing agents. If the product has frozen or become thick due to storage in colder temperatures, warm to 30C and mix thoroughly before use.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

Eye/face protection: safety glasses

Skin Protection

Hand Protection: Additional Information: gloves made of chloroprene (CR, e.g. Neoprene), gloves made of nitril (NBR)

Skin and Body Protection: protective clothing

Respiratory Protection: in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2

Hygiene measures: Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when working. Remove soiled or soaked clothing immediately.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	light yellow
Odor:	Mild
Odor Threshold:	not measured
pH:	6 - 7 (25 °C)
Freezing point:	8 °C (EC Method A.1)
Boiling Point:	356 °C (EC Method A.2)
Flash Point:	185 °C (ISO 3679)
Evaporation Rate:	not measured
Flammability (solid, gas):	not measured
Explosive limit - upper (%):	not measured
Explosive limit - lower (%):	not measured
Vapor pressure:	< 0.1 hPa (25 °C) (EC Method A.4)
Vapor density (air=1):	not measured
Density:	1.01 g/cm ³ (20 °C) (EC Method A.3)
Relative density:	not measured
Solubility in Water:	0.643 g/l (20 °C, EC Method A.6)
Solubility (other):	not measured
Partition coefficient (n-octanol/water):	4.51 (EU Method A.8)
Self Ignition Temperature:	254 °C (EC Method A.15)
Decomposition Temperature:	not measured
Kinematic viscosity:	not measured
Dynamic viscosity:	90 mPa.s (25 °C)

Other information

Explosive properties:	not measured
Oxidizing properties:	not oxidizing
Minimum ignition temperature:	not measured
Metal Corrosion:	Does not corrode metal.

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions"
Chemical Stability:	The product is stable under normal conditions.
Possibility of hazardous reactions:	No hazardous reactions with proper storage and handling.
Conditions to avoid:	None with proper storage and handling.
Incompatible Materials:	Oxidizing agents.
Hazardous Decomposition Products:	None with proper storage and handling.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	Relevant route of exposure. Information on effects are given below.
Skin Contact:	Relevant route of exposure. Information on effects are given below.
Eye contact:	Relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral	
Product:	LD 50 (Rat): > 5,000 mg/kg
Dermal	
Product:	LD 50 (Rat): > 5,000 mg/kg
Inhalation	
Product:	LC 50 (Rat): 4.73 mg/l Dusts, mists and fumes

Repeated dose toxicity

Product:	No data available.
-----------------	--------------------

Skin Corrosion/Irritation

Product:	Not irritating OECD 404 (Rabbit): Not irritating
-----------------	--

Serious Eye Damage/Eye Irritation

Product:	Irritating. Rabbit: Irritating.
-----------------	---------------------------------

Respiratory or Skin Sensitization

Product:	Maximisation Test, OECD 406 (Guinea Pig): Not a skin sensitizer. The results of a test on guinea pigs showed this substance to be a weak skin sensitiser.
-----------------	---

Carcinogenicity

Product:	No data available.
-----------------	--------------------

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity**In vitro**

Product: Chromosomal aberration (OECD 473): negative
Ames test (OECD 471): negative
Ames test (OECD 471): negative

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: Not classified

Other effects: No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: LC 50 (Cyprinodon variegatus (sheepshead minnow), 96 h): 8.6 mg/l
LC 50 (Cyprinus carpio (Carp), 96 h): 5.4 mg/l

Aquatic Invertebrates

Product: EC 50 (Daphnia magna (Water flea), 48 h): 25 mg/l
EC 50 (Acartia tonsa, 48 h): 9.8 mg/l

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Aquatic Invertebrates

Product: LC 50 (Corophium volutator, 10 d): 49.4 mg/l

Toxicity to Aquatic Plants

Product: EC 50 (Skeletonema costatum (marine diatom), 72 h): 2.4 mg/l
EC 50 (Desmodesmus subspicatus (green algae), 72 h): 13 mg/l

Persistence and Degradability**Biodegradation**

Product: 70 % (28 d, OECD 306)
70 % (28 d, OECD 301 F)

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: 4.51 20 °C (EU Method A.8)

Mobility in soil: No data available.

Components:
1-Octanol, reaction products with epichlorohydrin and 2-mercaptoethanol
No data available.

Components:
1-Octanol, reaction products with epichlorohydrin and 2-mercaptoethanol
No data available.

Other adverse effects: Do not allow to enter soil, waterways or waste water canal.

13. Disposal considerations

Disposal methods: In accordance with local authority regulations, take to special waste incineration plant

Contaminated Packaging: If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

14. Transport information

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Not regulated for transport within the U.S.A.

International Regulations

IATA-DGR

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(1-Octanol reaction products with epichlorohydrin and 2-mercaptoethanol)

Class : 9
Packing group : III
Labels : 9MI
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(1-Octanol reaction products with epichlorohydrin and 2-mercaptoethanol)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

<u>Chemical Identity</u>	<u>OSHA hazard(s)</u>
1-Octanol, reaction products with epichlorohydrin and 2-mercaptoethanol	Irritant

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Acute toxicity (any route of exposure), Serious eye damage or eye irritation

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPCRA (SARA Title III) Section 312 Extremely Hazardous Substances Reporting Quantities (40 CFR 355, Appendix A)

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations**US. California Proposition 65**

Not regulated.

Not regulated.

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

US TSCA Inventory:	Included on Inventory.
Canada DSL Inventory List:	Included on Inventory.

16. Other information, including date of preparation or last revision
HMIS Hazard ID

Health	2
Flammability	1
Physical Hazards	0
PERSONAL PROTECTION	

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

Issue Date: 11/06/2019

Version #: 1.2

Further Information: No data available.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Disclaimer: This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.