

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Printing date 11/12/2014

Reviewed on 11/12/2014

### \* 1 Identification

· **Product identifier**

· **Trade name:** NuFlo H2S-40

· **Product number:** NF-h2s-40

· **Product description** PC2 Adsorbents

· **Application of the substance / the mixture** Hydrogen Sulfide Scavenger: Aqueous Glyoxal Solution

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

NuGenTec Oilfield Chemicals

1155 Park Avenue, Emeryville, CA 94608

ofcadmin@nugentec.com

888-996-8436 or 707-891-3012 for product information

[www.nugentec.com/oilfield](http://www.nugentec.com/oilfield)

· **Emergency telephone number:** Infotrac: 1-800-535-5053, 1-352-326-2510

### \* 2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Eye Irrit. 2B H320 Causes eye irritation.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Warning

· **Hazard-determining components of labeling:**

glyoxal

ethylene glycol

· **Hazard statements**

Harmful if inhaled.

Causes skin and eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause damage to organs through prolonged or repeated exposure.

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· **Precautionary statements**

- Do not breathe dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves / eye protection / face protection.
- Wear protective gloves.
- Wash thoroughly after handling.
- Contaminated work clothing must not be allowed out of the workplace.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Specific treatment (see on this label).
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a poison center/doctor if you feel unwell.
- Wash contaminated clothing before reuse.
- IF exposed or concerned: Get medical advice/attention.
- If skin irritation or rash occurs: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- Get medical advice/attention if you feel unwell.
- If on skin: Wash with plenty of water.
- Take off contaminated clothing and wash it before reuse.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

### \* 3 Composition/information on ingredients

7732-18-5	water, distilled, conductivity or of similar purity	25-50%
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· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous Components:**

107-22-2	glyoxal ⚠ Muta. 2, H341; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	40-60%
107-21-1	ethylene glycol ⚠ STOT RE 2, H373; ⚠ Acute Tox. 4, H302	2-12%

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### \* 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness, place patient securely on side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist, consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### \* 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**  
Mouth respiratory protective device.  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

### \* 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (ie. sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Dispose of the collected material according to regulations.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### \* 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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- **Specific end use(s)** No further relevant information available.

### \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

#### · **Components with occupational exposure limits:**

##### **107-22-2 glyoxal**

TLV	Long-term value: 0.1* mg/m <sup>3</sup> DSEN;*as inhalable fraction and vapor
WEEL	Long-term value: 0.1 mg/m <sup>3</sup> DSEN; (H)

##### **107-21-1 ethylene glycol**

TLV	Long-term value: NIC-10* mg/m <sup>3</sup> Ceiling limit value: (100) mg/m <sup>3</sup> (H);*as inhalable fraction and vapor
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Select glove material based on penetration times, rates of diffusion and degradation.

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
- **Eye protection:** Goggles recommended during refilling.

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### \* 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Liquid  
 · **Color:** Light yellow  
 · **Odor:** Product specific  
 · **Odor threshold:** Not determined.

· **pH-value @ 20 °C (68 °F):** < 3.5

· **Change in condition**

· **Melting point/Melting range:** --  
 · **Boiling point/Boiling range:** 50 °C (122 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 265 °C (509 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· **Lower:** 0.0 Vol %  
 · **Upper:** 0.0 Vol %

· **Vapor pressure @ 20 °C (68 °F):** 23 hPa (17 mm Hg)

· **Density @ 20 °C (68 °F):** 1.087 g/cm<sup>3</sup> (9.071 lbs/gal)

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **Dynamic @ 20 °C (68 °F):** 8 mPas  
 · **Kinematic @ 40 °C (104 °F):** 4 mm<sup>2</sup>/s

· **Solvent content:**

· **Organic solvents:** 0.0 %  
 · **Water:** 37.0 %

· **Solids content:** 60.0 %

· **Other information** No further relevant information available.

### \* 10 Stability and reactivity

· **Reactivity** No further relevant information available.

· **Chemical stability** Stable under normal conditions.

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### \* 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>107-22-2 glyoxal</b>		
Oral	LD50	7070 mg/kg (rat)
Dermal	LD50	10000 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** May cause an allergic skin reaction.
- **on the eye:** Causes serious eye irritation.
- **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**  
 The product shows the following dangers according to internally approved calculation methods for preparations:  
 Harmful  
 Irritant

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
Group 1 - Carcinogenic to humans Group 2A - Probably carcinogenic to humans Group 2B - Possibly carcinogenic to humans Group 3 - Not classifiable as to its carcinogenicity to humans Group 4 - Probably not carcinogenic to humans
· <b>NTP (National Toxicology Program)</b>
None of the ingredients are listed.
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
None of the ingredients are listed.

### \* 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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## \* 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## \* 14 Transport information

- **UN-Number**
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name** Not Regulated for Transportation
- **DOT, ADR, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class** Non-Regulated Material
- **Packing group**
- **DOT, ADR, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

## \* 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

107-21-1 ethylene glycol

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

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· **Carcinogenic categories**

· <b>EPA (Environmental Protection Agency)</b>	
None of the ingredients are listed.	

· **TLV (Threshold Limit Value established by ACGIH)**

107-22-2	glyoxal	A4
107-21-1	ethylene glycol	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.	
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· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Warning

· **Hazard-determining components of labeling:**

glyoxal  
ethylene glycol

· **Hazard statements**

Harmful if inhaled.  
Causes skin and eye irritation.  
May cause an allergic skin reaction.  
Suspected of causing genetic defects.  
May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves / eye protection / face protection.  
Wear protective gloves.  
Wash thoroughly after handling.  
Contaminated work clothing must not be allowed out of the workplace.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Specific treatment (see on this label).  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a poison center/doctor if you feel unwell.  
Wash contaminated clothing before reuse.  
IF exposed or concerned: Get medical advice/attention.  
If skin irritation or rash occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Get medical advice/attention if you feel unwell.  
If on skin: Wash with plenty of water.  
Take off contaminated clothing and wash it before reuse.  
Store locked up.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

· <b>National regulations:</b>		
The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.		
· <b>State Right to Know</b>		
107-22-2	glyoxal ⚠ Muta. 2, H341; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	40-60%
107-21-1	ethylene glycol ⚠ STOT RE 2, H373; ⚠ Acute Tox. 4, H302	2-12%
7732-18-5	water, distilled, conductivity or of similar purity	25-50%
107-21-1	ethylene glycol	3%

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### \* 16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision** 11/12/2014 / 8

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

· **\* Data compared to the previous version altered.**

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