

# D V S 6 0 0 0

## H<sub>2</sub>S & MERCAPTAN SCAVENGER

**Eliminate:**

- H<sub>2</sub>S from sour liquid & gas hydrocarbons
- Harsh odours



<b>Description:</b>	<b>DVS 6000</b> is a proprietary liquid scavenger for use in neutralizing hydrogen sulphide (H <sub>2</sub> S), methyl mercaptans and ethyl mercaptans.				
<b>Properties:</b>	<ul style="list-style-type: none"> <li>• Non-flammable</li> <li>• Non-corrosive</li> <li>• Zinc sulfide by-product</li> <li>• pH of 10.4, spent pH of 8.4</li> <li>• Non-toxic by-product</li> <li>• Freeze point below minus 45°</li> <li>• Average spent-product particle size of 5 microns</li> <li>• Mild odor</li> </ul>				
<b>Applications:</b>	<p><b>DVS 6000</b> neutralizes H<sub>2</sub>S &amp; mercaptans in:</p> <ul style="list-style-type: none"> <li>• Truck Mounted Scrubbers</li> <li>• Stationary Scrubbers</li> <li>• Vent Gas Scrubbers</li> <li>• Fuel Gas Scrubbing</li> <li>• Storage Tanks</li> <li>• Sour Water</li> <li>• Tank, Vessel and Pipeline Decontamination</li> <li>• Natural Gas Pipelines</li> <li>• Liquid Hydrocarbon Pipelines</li> <li>• Gas plants and refineries.</li> <li>• All H<sub>2</sub>S Safety-related situations.</li> </ul>				
<b>Benefits:</b>	<ul style="list-style-type: none"> <li>• No formaldehyde.</li> <li>• Safer, easier to use, and more effective than ammonia and caustic soda.</li> <li>• Non-regulated under the Transportation of Dangerous Goods Act of Canada, making it safe to transport via air, land or sea.</li> <li>• Spent product is non-toxic under the Environment Canada biological test "Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout".</li> </ul>				
<b>Effectiveness:</b>	<ul style="list-style-type: none"> <li>• <b>DVS 6000 in truck-mounted scrubbing units</b> lasts up to 8 times longer than ammonia in testing and in multiple field trials.</li> <li>• <b>DVS 6000 injected directly into liquid hydrocarbons and water.</b> Recommended dosage rates to eliminate H<sub>2</sub>S: <ul style="list-style-type: none"> <li>• For fast reaction: 0.7 L <b>DVS 6000</b> / m<sup>3</sup> liquid / 1000ppm H<sub>2</sub>S</li> <li>• For application where residence time is available: 0.14 L <b>DVS 6000</b> / m<sup>3</sup> liquid / 1000ppm H<sub>2</sub>S</li> </ul> </li> <li>• For examples of actual treatment with <b>DVS 6000</b> in various field applications, please refer to other side of this brochure.</li> </ul>				
<b>Disposal:</b>	<p>Please consult with appropriate government authorities respecting proper disposal procedures to ensure compliance with all municipal, provincial, territorial, state and federal laws.</p> <p>Disposal methods practiced with current spent scavenger liquids or sweetening agents should continue to be followed. In Alberta, DVS 6000's zinc sulphide by-product is suitable for injection in a Class 1b disposal well according to Alberta EUB Guide 51.</p>				
<b>Contact Information:</b>	<table border="0"> <tr> <td><u>Diversified Industries Ltd.:</u> Jim Greenough, COO Tom Devereux, VP, Operations Phone: (780) 461-6466 Fax: (780) 461-4181 Email: info@dvsind.com Website: www.dvsind.com 4304-76th Avenue Edmonton, AB T6B 2H8 Canada</td> <td><u>Technical Sales Support:</u> Kirby Lucas Phone: (403) 505-6800 Email: kirby@dvsind.com</td> </tr> <tr> <td></td> <td>Dale Storey Phone: (403) 350-0193 Email: dale@dvsind.com</td> </tr> </table>	<u>Diversified Industries Ltd.:</u> Jim Greenough, COO Tom Devereux, VP, Operations Phone: (780) 461-6466 Fax: (780) 461-4181 Email: info@dvsind.com Website: www.dvsind.com 4304-76th Avenue Edmonton, AB T6B 2H8 Canada	<u>Technical Sales Support:</u> Kirby Lucas Phone: (403) 505-6800 Email: kirby@dvsind.com		Dale Storey Phone: (403) 350-0193 Email: dale@dvsind.com
<u>Diversified Industries Ltd.:</u> Jim Greenough, COO Tom Devereux, VP, Operations Phone: (780) 461-6466 Fax: (780) 461-4181 Email: info@dvsind.com Website: www.dvsind.com 4304-76th Avenue Edmonton, AB T6B 2H8 Canada	<u>Technical Sales Support:</u> Kirby Lucas Phone: (403) 505-6800 Email: kirby@dvsind.com				
	Dale Storey Phone: (403) 350-0193 Email: dale@dvsind.com				

**Disclaimer:** The information and data contained herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use. Diversified Industries Ltd. will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information or data are inaccurate, incomplete or otherwise misleading. Please refer to the Material Safety Data Sheet for detailed product information, preventive measures and first aid procedures.

## H<sub>2</sub>S & MERCAPTAN SCAVENGER

# D V S 6 0 0 0

### Eliminate:

- H<sub>2</sub>S from sour liquid & gas hydrocarbons
- Harsh odours



## RECENT TREATMENT SOLUTIONS WITH DVS 6000

<p><b>Sour Liquid Hydrocarbon Downhole &amp; at the Wellhead</b></p>	<ul style="list-style-type: none"> <li>• A Major Oil Company's producing oil well was treated with <b>DVS 6000</b> by injecting directly at the wellhead.</li> <li>• The well producing 80 m<sup>3</sup> of liquid with an H<sub>2</sub>S content of 2700 ppm was treated by directly injecting <b>DVS 6000</b> in the flow line at a rate of 30 L/day. The H<sub>2</sub>S was reduced to 0 ppm.</li> <li>• Subsequently, <b>DVS 6000</b> was also injected down the casing at the same treatment rate and also achieved complete removal of H<sub>2</sub>S.</li> <li>• This Major Oil Company is now treating oil producing sour wells at various other locations with <b>DVS 6000</b>.</li> </ul>
<p><b>Sour Condensate</b></p>	<ul style="list-style-type: none"> <li>• A Major Oilfield Service Company treated 225 m<sup>3</sup> (225,000 L) of condensate with an H<sub>2</sub>S content of 8,000 ppm by adding 400 L of <b>DVS 6000</b> directly into storage tank at the pump.</li> <li>• <b>DVS 6000</b> reduced H<sub>2</sub>S content to 0 ppm after circulating for 2 hours</li> <li>• Based on this trial the Company switched all their facilities which handled H<sub>2</sub>S contaminated products, to using <b>DVS 6000</b>, from previously using formaldehyde based liquid scavengers.</li> <li>• This decision was not only based on the effectiveness of <b>DVS 6000</b>, but also because it is an easier and safer alternative when being handled by their operators.</li> </ul>
<p><b>Sour Water</b></p>	<ul style="list-style-type: none"> <li>• 5 m<sup>3</sup> of sour water with an H<sub>2</sub>S content of 10% or 100,000 ppm was treated with 20 L <b>DVS 6000</b> added directly to the tanker before the sour water was pumped in.</li> <li>• After arriving at disposal site 1.5 hours away, the H<sub>2</sub>S content was reduced to zero in tank (vent line) and a shake test showed 100 ppm of H<sub>2</sub>S in head space.</li> </ul>
<p><b>New Oil Well Turned Sour Unexpectedly</b></p>	<ul style="list-style-type: none"> <li>• Well was flowing at 4 m<sup>3</sup> per hour and H<sub>2</sub>S content was reported by client to be 350 ppm. Recommendation was that they put 2 L of <b>DVS 6000</b> into testers vessel then inject 1 L per hour into flow line at the methanol injection site at well head.</li> <li>• 24 hours later they were producing 60 ppm H<sub>2</sub>S at the 400 barrel storage tank. H<sub>2</sub>S content at the wellhead was in fact between 1000 and 3000 ppm. The Company had the option of injecting more <b>DVS 6000</b> to clear up the 60 ppm of H<sub>2</sub>S but they had already achieved the specification required for the job.</li> </ul>
<p><b>Contaminated Lube Oil</b></p>	<ul style="list-style-type: none"> <li>• 1200 L of lube oil contaminated with 10,000 ppm of H<sub>2</sub>S was recommended to be treated with 2.5 L of <b>DVS 6000</b>.</li> <li>• The company added 5 L of <b>DVS 6000</b> directly into the tank to be sure and hauled load to disposal site, 4 hours away.</li> <li>• Upon arrival the lube oil was accepted at disposal site as 0 ppm.</li> </ul>
<p><b>Gas Polishing</b></p>	<ul style="list-style-type: none"> <li>• A Gas Plant which had an ineffective amine unit and was slipping 6-20 ppm of H<sub>2</sub>S, was treated by directly injecting <b>DVS 6000</b> downstream of the unit at a rate of 0.33 L of <b>DVS 6000</b> / mmscf / ppm H<sub>2</sub>S.</li> <li>• This effectively reduced the H<sub>2</sub>S to meet sweet gas sales specifications (&lt;6ppm of H<sub>2</sub>S).</li> <li>• The Plant has effectively treated with <b>DVS 6000</b> for over a year.</li> </ul>

**Disclaimer:** The information and data contained herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use. Diversified Industries Ltd. will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information or data are inaccurate, incomplete or otherwise misleading. Please refer to the Material Safety Data Sheet for detailed product information, preventive measures and first aid procedures.