



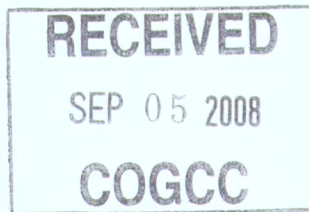
Project # 4620



OXY USA WTP LP
A subsidiary of Occidental Petroleum Corporation

2754 Compass Drive, Ste 170
Grand Junction, CO 81506

August 29, 2008



Mark Kadnuck, P.E.
Colorado Department of Public Health and Environment
Water Quality Control Division
Grand Junction District Office
222 South 6th Street, Room 232
Grand Junction, CO 81501

Re: OXY Incident Response Report
WQCD Spill No. 2008-0425
Garfield County, Colorado

Dear Mr. Kadnuck,

OXY USA WTP LP (OXY) is providing the following report to the Water Quality Control Division (WQCD) of the Colorado Department of Public Health and Environment (CDPHE) in response to the emailed questionnaire regarding spill number 2008-0425 received on July 17, 2008. OXY has prepared the attached letter report for the incident that occurred on June 16, 2008; included below are OXY's responses to the questionnaire.

Release Discovery and Reporting Summary

On June 16, 2008 a local rancher who leases grazing land from OXY notified OXY of a potential impact to surface waters emanating from a spring complex (two springs within close proximity to each other) located in Sec. 5, T6S, R97W, 6th PM, Garfield County, Colorado. Both the surface rights and mineral rights are owned by OXY at this location. The rancher visited the site (the rancher referred to the spring complex as "Rock Springs") on the evening of June 16, 2008. He noted what he described as a sulfur smell, and collected a water sample. OXY personnel visited the site later that evening and also noted the sulfur odor but were unable to collect a sample due to poor visibility. The following morning (June 17), OXY returned to the site and collected a surface water sample from the North spring. OXY returned June 19 to resample the North spring, discovered the South spring, and, as a precaution, bermed the North spring. On June 20, OXY pumped water from the North spring to a frac tank located at the 605-1 gas well pad. On June 21, OXY observed what appeared to be a sheen on the surface of the South spring, collected a surface water sample for testing and bermed the South spring. The water from the South spring was also pumped to the frac tank on the 605-1 pad. Surface water from the unnamed intermittent drainage continued (with no visual signs of hydrocarbons or other impacts) until June 23. On June 23, OXY began to observe a sheen on the unnamed drainage and bermed it as a precaution; surface water samples were also collected. Surface water above the springs was rerouted around the bermed areas to maintain flow. All impacted or potentially impacted surface water was captured and pumped into the frac tank.

On June 23, 2008, OXY received the analytical results confirming that there were traces of hydrocarbon constituents in the surface water originating from Rock Springs, which discharges into the unnamed drainage, a tributary to Crystal Creek. The North and South springs are located west and down gradient of OXY's 605-1 pad.

OXY reported the release to the Colorado Oil and Gas Conservation Commission (COGCC) on the evening of June 23, 2008. The COGCC conducted an on-site inspection on June 25, 2008. During the on-site inspection the COGCC noted that the 605-1 pit liner had holes.

OXY notified the U.S. Army Corps of Engineers (USACE) on June 24, 2008. On the date of notification to the USACE, the agency requested that OXY meet with the COGCC to identify the issue. After

assessments of the impacted area were made, OXY's third-party contractor contacted the USACE on July 10, 2008 and scheduled an on-site inspection for July 17, 2008.

The Colorado Department of Public Health and Environment (CDPHE) was notified on July 1, 2008. The CDPHE returned OXY's telephone call on July 2, 2008 and issued OXY Case No. 2008-0425. The CDPHE also indicated that it would fax OXY a questionnaire. OXY conducted follow up calls to the CDPHE regarding the questionnaire, and OXY received the questionnaire on July 17, 2008 (see attachment).

OXY's 605-1 pad was constructed in the fall of 1994 as a single-well pad; one well was permitted in 1994, but not drilled until the fall of 1998 (re-file was approved on August 3, 1998). No additional wells have been permitted/drilled at the 605-1 pad since 1998. The Conditions of Approval for the well did not stipulate that the reserve pit would have to be lined (see Appendix A). Natural gas was produced from this well during the months preceding the discovery.

In response to the release, the COGCC issued OXY a Notice of Alleged Violation (NOAV) on June 26, 2008. The COGCC also issued Williams Production RMT Company two NOAV's, one for each well located in near proximity to Rock Springs. OXY's NOAV (200191518) was assigned to the existing 605-1 well (API No. 05-045-06897-00). OXY's NOAV response was filed with the COGCC on July 18, 2008.

1. Estimated quantity of material and type released description of the event and its cause.

An unknown quantity of produced water and condensate was discharged into a lined pit associated with OXY well pad 605-1. OXY is unable to estimate or verify the timing of the breach in the liner; however, ranchers utilizing the spring in previous years stated that they never noticed the sulfur-like odor or discoloration emanating from the spring. The dye tracer test conducted on June 25 2008 (~40bbbls) confirmed that the pit had liner integrity failure with tracer leaving the pit through the ground. Tracer discharged from South spring on June 26, 2008 and from the North Spring on July 2, 2008 demonstrating hydraulic connectivity from the pit to the springs.

2. Exact dates and times of the event, including duration? If release still occurring, the date and time the release is expected to be stopped.

16Jun08 – Report from local rancher of sulfur smelling water from spring next to pad location in valley drainage. Initial on-site view of location at ~20:00 16Jun08. Identified smell but unable to confirm source due to limited visibility.

17Jun08 – Obtained water sample from the North spring location of Rock Springs drainage near 605-01 Pad.

19Jun08 – Installed berm to contain North Spring and placed sorbent booms within water collection area.

20Jun08 – Pumped collected water to FRAC tank on pad for further transport to facility water management system. Pumping ~ 80 bbl/day.

21Jun08 – Identified sulfur smelling water from South spring, installed berm to contain water and began pumping water to FRAC tank. Pumping ~160 bbl/day.

23Jun08 – Identified additional small seeps between springs with a slight sheen. Constructed an earthen dam with a 60mil barrier to contain additional water flow from the spring vicinity. Installed a 6" poly pipe to reroute non-impacted upstream flow and to discharge downstream of the dam. Installed fencing around Rock Springs and dam to prevent animal access to potentially impacted water. Pumping ~240 bbl/day

25Jun08 – Input 40bbbls of fresh water with 2lbs of Uranine 2313 Yellow tracer into the 605-01 production pit at 14:00. Initial observation showed no movement of liquid level in the lined pit after placement of the tracer dye.

26Jun08 – Tracer dye was visible at the South spring at 01:00.

02Jul08 – Slight tracer visibly identified at the North spring at 10:00.

Recurring Actions – Daily skimming of any visible film/scum at the spring and dam locations. Daily inspection and replacement of booms as required. Pumping an average of three times/day from the springs and dam into the FRAC tanks.

Assessment/Future Actions – OXY will characterize release and prepare a remediation plan. OXY has installed stormwater BMPs as needed to incorporate affected area into its existing

stormwater management plan. Additional mitigation efforts will be determined once site characterization is complete. OXY will continue coordination with local ranchers to verify water access to livestock and wildlife. **Note** – All collected water is placed into the OXY water management system for eventual reuse supporting gas well completions operations. The water management system includes hydrocarbon separation, filtration, and treatment.

The possible source of the release (the pit) was identified and repaired in June, 2008. Removal of impacted waters will continue until conditions indicate otherwise and with concurrence of regulatory authorities.

3. Exact location of release (i.e. address, lat/long, road name and mile marker.), were other entities affected, if so, who, where located, how were they affected?

The release occurred at two springs close to each other located at 39° 33' 22.84" N, 108° 14' 55.25" W in Section 5, Township 6 south, Range 97 west, of the 6th PM, Garfield County, Colorado. No entities other than the above-mentioned lessee ranchers and OXY were affected by the release.

4. Did materials reach surface waters of the state? If yes, what water body and estimated volume? Did it soak into soil, was groundwater impacted, yes/no, why? Estimated volume?

Yes, on June 23, 2008, OXY received the analytical results confirming that there were traces of hydrocarbon constituents in the surface water originating from Rock Springs, which discharges into the unnamed drainage, a tributary to Crystal Creek (see figures). The horizontal distance from the pit (release point) to the springs is about 270 feet. The width of impacted groundwater is approximately 20 to 50 feet and the thickness of impacted groundwater is approximately 5 feet. Some vadose and saturated soil in this area may be impacted by the release. The two springs discharge several gallons per minute. Concentrations of hydrocarbons in the measured spring water are decreasing over time. To date, visual sheen or laboratory analytical results have identified no downstream contamination below the dams.

5. Measures taken or planned to clean up spill or release. If not going to do clean up, why not?

See answer to question #2 above. OXY is evaluating the release and will prepare a remediation plan at a future date. All impacted water is being removed from the springs and drainage.

6. Results (attach reports) of any samples taken, describe impacts to surface water (i.e. fish kills).

Analytical results from samples collected at the location are included in tabulated form. Surface water impacts were confined to sulfuric odor, minor discoloration of soil in the springs, and trace levels of benzene. No stressed biota has been observed. Complete laboratory analytical reports will be submitted to the COGCC and are available for review. A summary of laboratory analytical results and a figure showing sampling locations is attached to this response.

7. Describe notification if surface water impacted (i.e. signs posted, list downstream users, etc.).

On June 25, 2008, the COGCC attended OXY's stakeholder meeting, which included leaseholders and nearby property owners and representatives from OXY's Operations, HES, and Regulatory groups and a representative from Walsh Environmental, LLC. OXY presented the stakeholders with information regarding the release, the initial water sampling data and OXY's corrective actions to date.

OXY installed fencing around the spring complex and affected area to prevent access by humans and wildlife.

8. Steps taken or planned to prevent reoccurrence of the event.

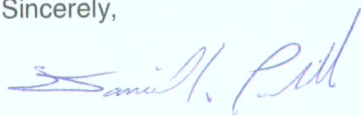
The production pit was enlarged and a replacement liner was installed with the following specifications: ~60'x100'x10'D, ~4900bbls with 2' freeboard; approximate 2:1 sideslopes; 36 mil RPP Liner with CETCO GCL protective underlayment. A primary water tank will be installed for holding produced water from well. The new production pit will be permitted with COGCC (Form 15). Geotechnical Engineering Group certified pit construction as per COGCC Notice to Operators memorandum, issued June 12, 2008.

9. Attach MSDS's for any and all chemicals involved in the spill or release.

No chemicals other than produced water and condensate are suspected to have been released.
An MSDS for natural gas condensate is attached.

I can be reached at 970.263.3637 or at daniel_padilla@oxy.com if you have any questions, comments, or if you require additional information. Thank you for your assistance in this matter.

Sincerely,



Daniel I. Padilla
OXY Regulatory Coordinator

Attachments:

CDPHE Questionnaire
Laboratory Data Summary
Figure 1 – Vicinity Topographic Map
Figure 2 – Pad 605-1 Vicinity
MSDS for Natural Gas Condensate

cc: File
D. Akers – CDPHE
C. Canfield – COGCC (3 copies)
S. Nall – USACE
OXY Operations
OXY Legal
OXY Regulatory
OXY HES



Rocky Mountain Assets

FIGURE 2 -- 605-01 VICINITY MAP

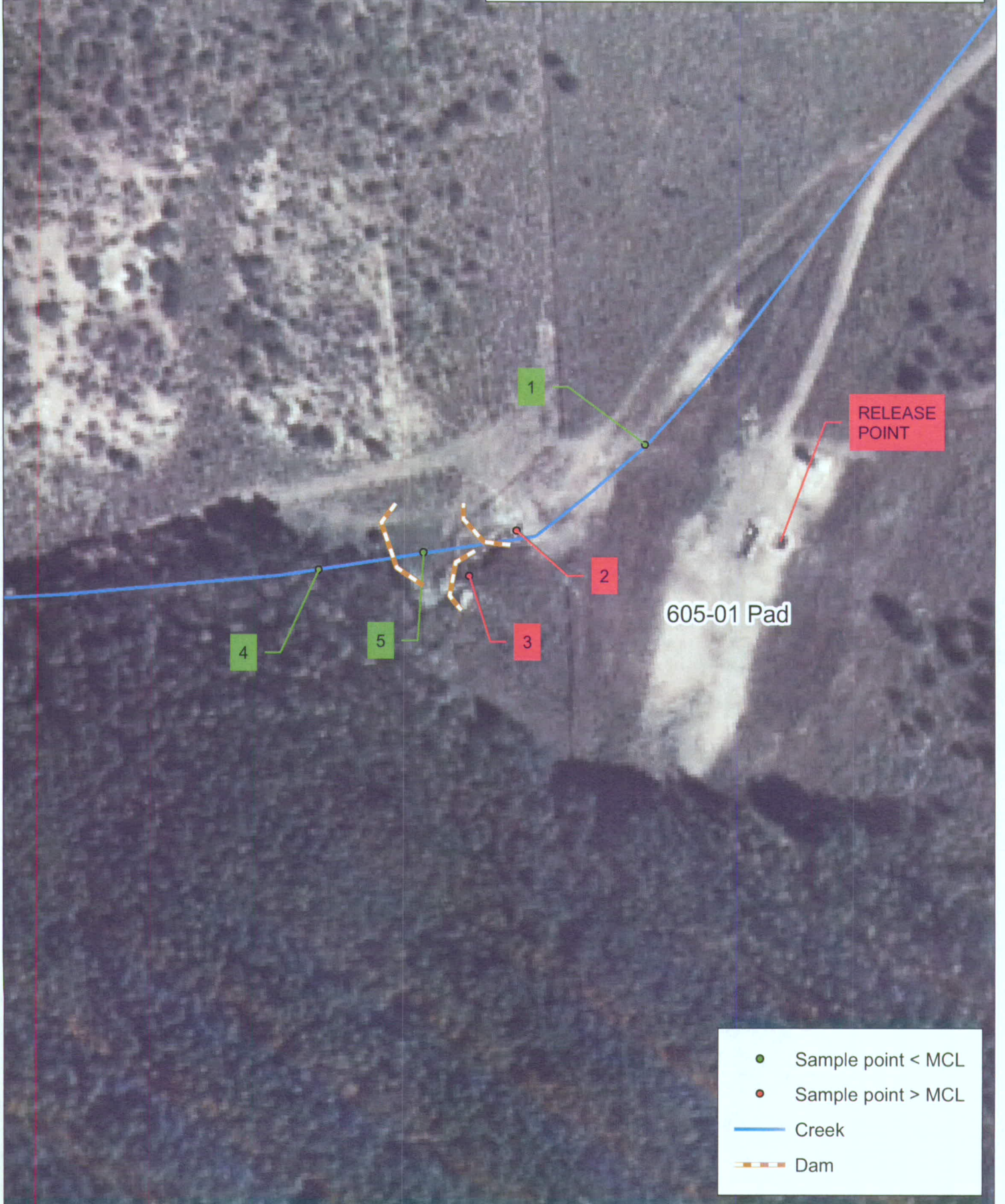
0 0.01 0.02 0.03 0.04 Miles

1:1,500

1 inch equals 125 feet

Garfield County, Colorado

N



Pad 605-01 Sampling Results

Date	Sample ID	Map I.D.	Sample Location		Benzene	Toluene	Ethyl- benzene	Xylenes	GRO (Gas TVH)	TDS
1	MCL			Water	0.005	1.00	0.700	10.0	NA	NA
6/24/2008	062408-01 605-01 UPS	1	upstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	600
7/7/2008	UPSTREAM	1	Upstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA
7/31/2008	073108-UPSTREAM 1	1	Upstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA
8/14/2008	081408-UPSTREAM 1	1	Upstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA
6/24/2008	062408-02 605-01 N S	2	N Spring	Water	0.036	<0.0050	0.0084	0.26	2.0	570
7/7/2008	NORTH TRENCH	2	N Spring	Water	0.019	<0.0050	0.0092	0.17	1.1	NA
7/18/2008	605-01-N SPRING	2	N Spring	Water	0.03	0.01	0.032	0.27	NA	600
7/31/2008	073108-N SPRING 2	2	North Spring	Water	0.037	0.010	0.025	0.23	1.3	NA
8/7/2008	080708-N SPRING 2	2	N. Spring	Water	0.038	0.013	0.028	0.25	1.4	NA
8/14/2008	081408-N. SPRING 2	2	N. Spring	Water	0.016	<0.0050	0.0010	0.050	0.90	NA
6/24/2008	062408-03 605-01 S S	3	S Spring	Water	0.064	0.028	0.0023	0.94	2.8	690
7/7/2008	SOUTH TRENCH	3	S Spring	Water	0.32	0.26	0.60	2.4	8.2	NA
7/18/2008	605-01-S-SPRING	3	S Spring	Water	0.35	<0.0050	<0.00050	2.1	NA	1000
7/31/2008	073108-S SPRING 3	3	S Spring	Water	0.33	0.37	0.1	2	6.1	NA
8/7/2008	080708-S SPRING 3	3	S. Spring	Water	0.19	0.19	0.048	1.0	3.3	NA
8/14/2008	081408-S. SPRING 3	3	S. Spring	Water	0.34	<0.0050	<0.00050	2.5	<0.10	NA
6/24/2008	062408-04 605-01 DOW	4	downstream	Water	0.0032	<0.0050	<0.00050	0.019	0.23	720
7/7/2008	DOWNSTREAM	4	Downstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA
7/18/2008	605-01-DOWNSTREAM	4	Downstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	790
7/31/2008	073108-DOWNSTREAM 4	4	Downstream	Water	0.00077	<0.0050	<0.00050	0.0063	<0.10	NA
8/7/2008	080708-DOWNSTREAM 4	4	Downstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA
8/14/2008	081408-DOWNSTREAM 4	4	Downstream	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA
7/7/2008	LOWER PIT	5	Lower pit	Water	<0.0005	<0.0050	0.00064	<0.0015	<0.10	NA
7/18/2008	605-01-LOWER-PIT	5	Lower pit	Water	0.0067	<0.0050	0.0018	0.026	0.11	NA
7/31/2008	073108-NEW POND 5	5	New Pond	Water	0.0025	<0.0050	0.00071	0.0094	<0.10	NA
8/7/2008	080708-NEW POND 5	5	New Pond	Water	0.0032	<0.0050	0.00079	0.019	0.12	NA
8/14/2008	081408-NEW POND 5	5	New Pond	Water	<0.0005	<0.0050	<0.00050	<0.0015	<0.10	NA



OXY CASCADE CREEK OPERATIONS
AND 605-01 LOCATION

MATERIAL SAFETY DATA SHEET



Print date: 06-Dec-2005

Revision date: NA

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification: Occidental Oil and Gas Corporation
5 E. Greenway Plaza
Suite 110
Houston, TX 77046

Emergency Telephone Number: CHEMTREC: 1-800-424-9300

Product Code: OOGC011

Product Name: NATURAL GAS CONDENSATE

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: HIGHLY FLAMMABLE. Remove all ignition sources. CANCER HAZARD. Contains benzene. Harmful by inhalation, in contact with skin and if swallowed.

Color: Colorless.

Appearance: Clear liquid.

Odor: Hydrocarbon.

Major Health Hazards: May be absorbed through the skin in toxic amounts.

Physical Hazards: Keep away from all sources of ignition.

Other: Avoid contact with eyes, skin and clothing.

Potential Health Effects:

Inhalation: CNS effects. Dizziness. Headache. Irritation. Neuropathy.

Eye contact: Irritation.

Skin contact: Irritation. May be absorbed through the skin in toxic amounts.

Ingestion: Gastrointestinal irritation, nausea, vomiting and diarrhea. May cause burns of mouth and esophagus.

Chronic Overexposure: May cause dermatitis. Blood. Bone marrow (leukemia). CNS (Central Nervous System). Kidney damage. Liver damage. PNS (Peripheral Nervous System). Respiratory system. Cancer.

Carcinogen Status:

Components - Units	NTP	IARC 1	IARC 2	OSHA (SRC*)
Natural gas condensates, petroleum 64741-47-5 (0 - 100 %)	Not listed	Not listed	Not listed	
Hexane 110-54-3 (0 - 11 %)	Not listed	Not listed	Not listed	
Benzene 71-43-2 (0 - 10 %)	Known Carcinogen	Not listed	Not listed	0.5 ppm Cancer hazard, Flammable - see 29 CFR 1910.1028 1 ppm 5 ppm
Xylenes (o-, m-, p- isomers) 1330-20-7 (0 - 5 %)	Not listed	Not listed	Not listed	
Cyclohexane 110-82-7 (0 - 5 %)	Not listed	Not listed	Not listed	
Toluene 108-88-3 (0 - 5 %)	Not listed	Not listed	Not listed	
Ethyl benzene 100-41-4 (0 - 1 %)	Not listed	Not listed	Not listed	
Cumene 98-82-8 (0 - 0.05 %)	Not listed	Not listed	Not listed	
Heptane (n-) 142-82-5 (YES %)	Not listed	Not listed	Not listed	
Pentane 109-66-0 (YES %)	Not listed	Not listed	Not listed	
Nonane 111-84-2 (YES %)	Not listed	Not listed	Not listed	

*SRC = Specifically Regulated Chemical

Medical Conditions Aggravated by Exposure: Blood system disorders. Kidney disorders. Liver disorders. Nervous system disorders. Respiratory disorders. Skin disorders.

HMIS:

(Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health: 2* **Flammability:** 3 **Reactivity:** 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Components - Units	CAS-No	Concentration	ACGIH Full Shift TWA	OSHA Full Shift PEL	OSHA Full Shift PEL (Vacated)
Natural gas condensates, petroleum - PPH	64741-47-5	0 - 100			
Hexane - PPH	110-54-3	0 - 11	50 ppm 500 ppm other than n-hexane		180 mg/m ³ 1800 mg/m ³ 50 ppm 500 ppm
Benzene - PPH	71-43-2	0 - 10	0.5 ppm		10 ppm unless specified in 1910.1028
Xylenes (o-, m-, p- isomers) - PPH	1330-20-7	0 - 5	100 ppm		100 ppm 435 mg/m ³
Cyclohexane - PPH	110-82-7	0 - 5	100 ppm		1050 mg/m ³ 300 ppm
Toluene - PPH	108-88-3	0 - 5	50 ppm		100 ppm 375 mg/m ³
Ethyl benzene - PPH	100-41-4	0 - 1	100 ppm		100 ppm 435 mg/m ³
Cumene - PPH	98-82-8	0 - 0.05	50 ppm		245 mg/m ³ 50 ppm
Heptane (n-) -	142-82-5	YES	400 ppm		1600 mg/m ³ 400 ppm
Pentane -	109-66-0	YES	600 ppm		1800 mg/m ³ 600 ppm
Nonane -	111-84-2	YES	200 ppm		1050 mg/m ³ 200 ppm

* PPH=Percent (%)

4. FIRST AID MEASURES

General Advice:	Move to fresh air. Never give anything by mouth to an unconscious or convulsive person.
Inhalation:	If respiration or pulse has stopped, have a trained person administer basic life support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.
Skin Contact:	Rinse with plenty of water. If symptoms persist, seek medical attention.
Eye Contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, seek medical attention.
Ingestion:	Aspiration may cause pulmonary edema and pneumonitis.

5. FIRE-FIGHTING MEASURES

Flash point:	22.8 C (73 F)	Method:	NA
Extinguishing Media:	Dry chemical. Carbon dioxide (CO2). Water fog.		
Extinguishing Media NOT to be Used for Safety Reasons:	None known.		
Hazardous Combustion Products:	Carbon monoxide. Non-combusted hydrocarbons (smoke).		

Specific Hazards: Highly flammable. Class 1C liquid. Readily ignited by heat, sparks or flames. In case of fire, allow gas to burn if flow cannot be shut off immediately. Permit residual vaporized liquid to dissipate. Use water fog in flooding quantities. Apply media from as far a distance as possible. Cool containers and surrounding area with water.

IDLH: Benzene - 500 ppm
Carbon monoxide - 1200 ppm

Special Protective Equipment for Firefighters: In the event of fire, wear self-contained breathing apparatus.

Flammability Limits in Air:

Lower	No information available	Upper	No information available
--------------	--------------------------	--------------	--------------------------

NFPA:

Health:	1	Flammability:	3	Reactivity/Instability:	0
----------------	---	----------------------	---	--------------------------------	---

Sensitivity to Static Discharge: Yes

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Eliminate all sources of ignition. Take precautionary measures against static discharges. Wear personal protective equipment as per Section 8.

Environmental Precautions: Stop leak if possible without personal risk. Do not allow material to contaminate ground water system. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. Releases should be reported, if required, to appropriate agencies. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (US. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Methods for Cleaning Up: Reuse or reprocess where possible. Take up with sand or other oil absorbent materials. Carefully shovel, scoop or sweep up into waste containers for reclamation or disposal. Flammable vapors may accumulate in closed containers.

Other Precautions: Keep all sources of ignition away from spill/release. Prevent contact with ignition sources or areas/equipment that require protection. The proper use of water spray may effectively disperse product vapors or the liquid itself.

7. HANDLING AND STORAGE

General: Electrical installations and equipment in hazardous locations should be installed according to the National Electric Code (U.S.A.). Empty containers retain residue and may be hazardous. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Handling Procedures: Avoid contact with skin and eyes. Remove and wash contaminated clothing before re-use. Keep contaminated clothing away from sources of ignition. To avoid ignition by static electricity discharge, equipment must be bonded and grounded. The use of explosion-proof equipment may be required by local fire codes.

Storage Conditions: Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition. May be subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Store only in approved containers. Keep away from incompatible materials.

Incompatible Substances: Oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Ensure compliance with applicable exposure limits (Section 2). Ensure adequate ventilation, especially in confined areas.. Use explosion proof equipment and lighting in classified/controlled areas. Where possible, enclose operations. Use local exhaust ventilation at the site of chemical release.

Personal Protective Equipment:

Eye Protection: Safety glasses with side-shields. Where splashing or spraying is possible, use chemical protective goggles.

Skin and Body Protection: Flame retardant protective clothing.

Hand Protection: Chemical protective gloves.

Protective Material Types: Nitrile. Tychem(R) BR/LV. Tychem(R) TK. Viton(R). Viton(R)/Butyl rubber.

Respiratory Protection: When exposure limits may be exceeded, wear respiratory equipment as per U.S. OSHA 29 CFR 1910.134. Organic vapor cartridges may be appropriate under certain conditions. A full facepiece air-purifying respirator may be used in concentrations up to 50X the acceptable exposure level. Positive pressure supplied air must be used when there is a potential for uncontrolled release. When the level may be above the IDLH, use an SCBA or positive pressure supplied air with an auxilliary self-contained escape pack.

Other Protective Equipment: Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Hygiene Measures: Do not smoke. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Appearance: Clear liquid.

Color: Colorless.

Odor: Hydrocarbon.

Boiling Point/Range:	No data available	Melting Point/Range:	No data available	Freezing Point/Range:	No data available
Vapor Density: (air=1)	Not determined	Bulk Density:	No data available	Density:	No data available

Vapor Pressure: 575.8 mm Hg @ 38 C
Specific Gravity (water=1): 0.7 - 0.74

Water Solubility: Slightly soluble
Partition Coefficient
(n-octanol/water): No data available
Evaporation Rate (nBuAc=1): No data available

10. STABILITY AND REACTIVITY

Stability: Stable.
Conditions to Avoid: Keep away from open flames, hot surfaces and sources of ignition.
Incompatibilities/
Materials to Avoid: Strong oxidizing agents. Chlorine.
Hazardous Decomposition
Products: Carbon monoxide. Carbon dioxide. Sulfur oxides. Hydrogen sulfide. Non-combusted hydrocarbons (smoke).
Hazardous Polymerization: Will not occur
Reactivity: Stable at normal temperatures and pressure.

11. TOXICOLOGICAL INFORMATION

Target Organs: Central nervous system. Eyes. Hematopoietic (blood) system. Kidneys. Liver. Peripheral nervous system. Reproductive system. Respiratory system. Skin.

Acute Toxicity: Irritation. Anesthesia. Neuropathy. Nausea. Vomiting. Chemical pneumonitis (aspiration hazard). Alcohol may enhance the toxic effects.

Primary Irritation:

Eye Irritation: Moderate.
Skin Irritation: May cause skin irritation and/or dermatitis.

Inhalation: Irritating to respiratory system. CNS depression.

Toxicity Testing: No data are available on the product itself

Components - Units	LC50/Inhalation /4h/Rat:	LC50/Inhalation /8h/Rat:	LD50/Dermal /Rabbit:	LD50/Oral /Rat:
Natural gas condensates, petroleum 64741-47-5 (0 - 100 %)		5.2 mg/L Rat 4h		
Hexane 110-54-3 (0 - 11 %)		48000 ppm Rat 4h		
Benzene 71-43-2 (0 - 10 %)		13050 ppm Rat 4h		
Xylenes (o-, m-, p- isomers) 1330-20-7 (0 - 5 %)		5000 ppm Rat 4h		
Cyclohexane 110-82-7 (0 - 5 %)		13.9 mg/L Rat 4h		
Toluene 108-88-3 (0 - 5 %)		12.5 mg/L Rat 4h 26700 ppm Rat 1h		
Ethyl benzene 100-41-4 (0 - 1 %)		17.2 mg/L Rat 4h		
Heptane (n-) 142-82-5 (YES %)		103 g/m ³ Rat 4h		
Pentane 109-66-0 (YES %)		364 g/m ³ Rat 4h		
Nonane 111-84-2 (YES %)		3200 ppm Rat 4h		

Reproductive Toxicity: No data are available on the product itself

Components - Units

Reproductive Toxins

Benzene
71-43-2 (0 - 10 %)

male reproductive toxicity, initial date 12/26/97

Chronic Toxicity: Prolonged skin contact may defat the skin and produce dermatitis. Cancer. Reproductive toxin .

Carcinogenic Effects: See Section 2 of this MSDS for carcinogenicity of components..

12. ECOLOGICAL INFORMATION

Product Information: No data are available on the product itself.

Ecotoxicity Data:

Fish Species Data:

Benzene: Fathead minnow 12.6 mg/L, 96 Hrs
Hexanes: Goldfish 150-210 mg/L, 48 Hrs

Fate and Transport:

Biodegradation:

Inherently biodegradable. Volatization from soil surfaces is an important environmental fate process. n-Hexane at 500 mg/liter was toxic to microorganisms using 50 mg municipal sludge. The products of degradation are less toxic than the product itself. These products are carbon monoxide, carbon dioxide, water and sulfur oxides.

Aquatic Toxicity: Volatization from water surfaces is expected.

Additional Ecological Information:

Will exist in the vapor-phase in the ambient atmosphere.

13. DISPOSAL CONSIDERATIONS

Waste from Residues/ Unused Product:	Reuse or reprocess, if possible. May be hazardous under U.S. EPA RCRA regulations. Dispose in accordance with all applicable regulations. Contact your local environmental agency for specific rules. Return unused product in original container to supplier. Contact supplier if guidance is required.
Contaminated Packaging:	Containers should be disposed of in an environmentally safe manner. Containers should be emptied prior to discard. Container rinsate must be disposed of in compliance with applicable regulations. Inspect empty containers before reuse. May contain product residues which could produce flammable vapors.

14. TRANSPORT INFORMATION

Proper Shipping Name:	HYDROCARBONS, LIQUID, N.O.S.
UN/Id No:	3295
Hazard Class or Division:	3
Packing Group:	I
Labeling Requirements:	Required
Dot Label:	Flammable liquid

15. REGULATORY INFORMATION

U.S. Regulations:

SARA Title III Sections 311/312:	SARA Hazard Categories:	Acute Health Hazard. Chronic Health Hazard. Fire Hazard.
---	--------------------------------	--

Components - Units	Natural gas condensates, petroleum 64741-47-5 (0 - 100 %)
---------------------------	--

SARA Title III Section 302 Extremely Hazardous Substance: No

SARA Title III Section 313 Threshold (pounds): NA

CERCLA/SARA - Hazardous Substances and their Reportable Quantities: NA

Components - Units	Hexane 110-54-3 (0 - 11 %)
---------------------------	-------------------------------

SARA Title III Section 302 Extremely Hazardous Substance: No

SARA Title III Section 313 Threshold (pounds): 1.0

CERCLA/SARA - Hazardous Substances and their Reportable Quantities: 5000

Components - Units	Benzene 71-43-2 (0 - 10 %)
---------------------------	-------------------------------

SARA Title III Section 302 Extremely Hazardous Substance: No

SARA Title III Section 313 Threshold (pounds): 0.1

CERCLA/SARA - Hazardous Substances and their Reportable Quantities: 10

Components - Units	Xylenes (o-, m-, p- isomers) 1330-20-7 (0 - 5 %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	1.0
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	100
Components - Units	Cyclohexane 110-82-7 (0 - 5 %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	1.0
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	1000
Components - Units	Toluene 108-88-3 (0 - 5 %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	1.0
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	1 1000
Components - Units	Ethyl benzene 100-41-4 (0 - 1 %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	0.1
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	1000
Components - Units	Cumene 98-82-8 (0 - 0.05 %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	1.0
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	5000
Components - Units	Heptane (n-) 142-82-5 (YES %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	NA
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	NA
Components - Units	Pentane 109-66-0 (YES %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	NA
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	NA
Components - Units	Nonane 111-84-2 (YES %)	
	SARA Title III Section 302 Extremely Hazardous Substance:	No
	SARA Title III Section 313 Threshold (pounds):	NA
	CERCLA/SARA - Hazardous Substances and their Reportable Quantities:	NA

National Inventory Status:

TSCA:	All components are either listed under TSCA or are exempt.	
Components - Units	TSCA 12(b):	TSCA IUR
Natural gas condensates, petroleum 64741-47-5 (0 - 100 %)		Partially exempt chemical substance termed 'Petroleum Process Stream'

State Regulations:

Components - Units	Benzene 71-43-2 (0 - 10 %)
--------------------	-------------------------------

California Proposition 65: WARNING:
This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

carcinogen, initial date 2/27/87
developmental toxicity, initial date 12/26/97

Components - Units Toluene
108-88-3 (0 - 5 %)

California Proposition 65: WARNING:
This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

developmental toxicity, initial date 1/1/91

Components - Units Ethyl benzene
100-41-4 (0 - 1 %)

California Proposition 65: WARNING:
This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

carcinogen, initial date 6/11/04

16. OTHER INFORMATION

Technical Information: 1-713-215-7353

Reason for Revision: Not applicable

Additional Advice: Before using any product, read all warnings and directions on the label.

IMPORTANT:

The information provided in this safety data sheet is accurate to the best of our knowledge, or is obtained from sources believed to be accurate at the time of its publication. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SUITABILITY, STABILITY OR OTHERWISE. The information included herein is not intended to be all-inclusive as to the appropriate manner and/or conditions of use, handling and/or storage. Factors pertaining to certain conditions of storage, handling, or use of this product may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended to, and nothing herein shall be construed as a recommendation to, infringe any existing patents or violate any laws, regulations or ordinances of any governmental entity.

Common Short Forms:

CAS:	Chemical Abstract Service
COC:	Cleveland Open Cup
g/L:	grams per Liter
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IDLH:	Immediately Dangerous to Life or Health
LEL:	Lower Explosive Limit
lbs/gal:	pounds per gallon
NA:	Not Applicable
NFPA:	National Fire Protection Association
ND:	Not Determined
NTP:	National Toxicology Program
PPE:	Personal Protective Equipment
ppm:	Parts per Million
RQ:	Reportable Quantity
TCC:	Tag Closed Cup
UEL:	Upper Explosive Limit

