

10000237

# Material Safety Data Sheet

## Cat Cracker Feedstock

VALERO ENERGY CORPORATION  
7990 WEST IH 10  
P. O. BOX 500 (78292-0500)  
SAN ANTONIO, TX 78230-4715

Emergency Phone Numbers: 24 Hour Emergency: 713-923-6641  
Chemtrec Emergency: 800-424-9300  
General Assistance: 337-566-0116

Section I. Product Identification and Uses	
Common/Trade name	Cat Cracker Feedstock
Synonyms	Cat Feed, Gas Oil, Atmospheric Gas Oil, Vacuum Gas Oil, Straight Run Fuel Oil, Straight Run
Chemical family	Petroleum Distillate Aliphatic Hydrocarbon The product is a complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C20 having a boiling range between 400oF to more than 1200oF. This stream is likely to contain 5 wt% or more of 4 to 6 membered condensed ring aromatic hydrocarbons.
DOT Proper Shipping Name	Gas Oil
DOT Hazard Class	DOT CLASS 3: Flammable liquid.
JT Identification	UN 1202 PG: III
Number/Packaging Group	
Reportable Quantity	None
Marine Pollutant	No

**Section II. Summary of Hazards**

Danger! Product May Contain or Release Hydrogen Sulfide.

H2S is a highly toxic, highly flammable gas which can be fatal if inhaled at certain concentrations. May cause irritation to eyes, skin and respiratory system. Avoid liquid, mist and vapor contact. Harmful or fatal if swallowed. Aspiration hazard, can enter lungs and cause damage. May cause irritation or be harmful if inhaled or absorbed through the skin. Avoid prolonged or repeated skin contact. Contains polycyclic aromatic compounds which have been shown to cause anemia, disorders of the liver, bone marrow and lymphoid tissues in rats following dermal application. Product is stored and shipped hot so thermal burns are a risk. Combustible Liquid. Vapors may explode.

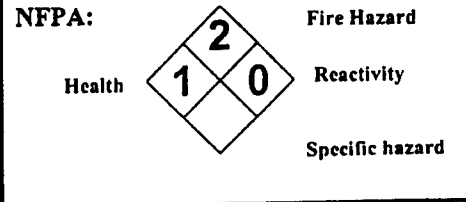
Section III. Hazardous Ingredients		
Name	CAS No.	Concentration (%)
1) Hydrogen Sulfide	7783-06-4	1
2) Naphtha (Coal Tar)	68476-79-9	1
3) Particulate Polycyclic Aromatics Hydrocarbons	65996-93-2	1
4) Toluene	108-88-3	1.01

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**Section IV. Physical Data**

Boiling point	400->1200°F		
Melting or Solid point	Not applicable		
Vapor density	Greater than air.		
Solubility	Negligible		
Physical state and appearance	Liquid. (Brown opaque Black)	Odor	Aromatic. Petroleum
		Color	Brown. opaque black
Odor threshold	Not available.		
Specific gravity	<1 @ 60°F		
Vapor pressure	<0.1 psi @ 100°F		
Volatility	Negligible		
Evaporation rate	Not available.		

**Section V. Fire and Explosion Data**

The product is:	Combustible.	<b>NFPA:</b> 
Flash points	140°F minimum	
Flammable limits	LOWER: 6% UPPER: 13.5%	
Auto-ignition temperature	>500°F	
Basic firefighting procedures:	Combustible Liquid. Use dry chemical, foam or carbon dioxide to extinguish the fire. Consult foam manufacturer for appropriate media, application rates and water/foam ratio. Water can be used to cool fire-exposed containers, structures and to protect personnel. If a leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers.	
Fire degradation products	Combustion may produce carbon monoxide, carbon dioxide and reactive hydrocarbons (aldehydes, aromatics, etc.) compounds	
Flammability	Conditions to Avoid: Heat, sparks, open flame, static electricity or any other potential ignition sources should be avoided. Prevent vapor accumulation. Do not switch load.	
Unusual fire and explosion hazards:	Dangerous when exposed to heat or flame. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources (pilot lights, welding equipment, electrical equipment, etc.) and flash back. Vapors may accumulate in low areas. Vapors may concentrate in confined areas. Flowing product can be ignited by self generated static electricity. Use adequate bonding and grounding to prevent static buildup. Runoff to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Irritating or toxic substances may be emitted upon thermal decomposition. For fires involving this material, do not enter any enclosed or confined space without proper protective equipment, which may include NIOSH approved self-contained breathing apparatus with full face mask. Clothing, rags or similar organic material contaminated with this product and stored in a closed space may undergo spontaneous combustion. Transfer to and from commonly bonded and grounded containers.	

**Section VI. Reactivity Information**

Stability	The product is stable.
Incompatibility	Avoid strong oxidizing agents (peroxide, dichromate, permanganate, chlorine, etc.), strong acids, caustics and halogens.
Hazardous polymerization	No.

**Section VII. Health Hazard Information & Toxicology of Components**

Primary routes of entry	<p>Eye or skin contact, Ingestion, Inhalation.</p> <p>Product Listed as a Carcinogen or Potential Carcinogen by:  NTP - Yes* IARC - Yes* OSHA - Yes* Other - Yes (API Studies)</p> <p>*IARC identified residual oils as a possible human skin cancer hazard based on tests with laboratory animals, but NTP and OSHA have not identified these oils as carcinogens. Polynuclear aromatic compounds present in the product are considered carcinogens by NTP and IARC.  Target Organs: Respiratory system, skin</p>
TLV	<p><b>Hydrogen Sulfide</b>  TWA: 10 STEL: 15 (ppm) from ACGIH [1999]  TWA: 50 CEIL: 20 (ppm) from OSHA-PEL [1999]  CEIL: 10 (ppm) from NIOSH-REL [1999]  IDLH: 100 (ppm) from NIOSH [1999]</p> <p><b>Naphtha (Coal Tar)</b>  TWA: 100 (ppm) from OSHA-PEL [1999]  TWA: 100 (ppm) from NIOSH-REL [1999]  IDLH: 1000 (ppm) [10% LEL] from NIOSH [1999]</p> <p><b>Particulate Polycyclic Aromatics Hydrocarbons</b>  TWA: 0.2 (mg/m<sup>3</sup>) from OSHA-PEL [1999]  TWA: 0.2 (mg/m<sup>3</sup>) from ACGIH [1999]  TWA: 0.1 (mg/m<sup>3</sup>) from NIOSH-REL [1999]  IDLH: 80 (mg/m<sup>3</sup>) from NIOSH [1999]</p> <p>Consult local authorities for acceptable exposure limits.  *These limits have been established for coal tar pitch volatiles, benzene soluble fraction. This material contains substantial amounts of polycyclic aromatic hydrocarbons and has health hazards that are similar to coal tar pitch volatiles.  **The NIOSH proposed standard is based on the cyclohexane extractable fraction.</p>
Effects and hazards of eye contact	This product is normally stored and shipped hot (110 F to 250 F) and thermal burns are a risk. At ambient temperature, may cause severe irritation, redness, tearing, blurred vision and conjunctivitis.
Effects and hazards of skin contact	This product is normally stored and shipped hot (110F to 250oF) and thermal burns are a risk. Prolonged or repeated contact may cause moderate irritation, defatting (cracking), redness, itching, inflammation, dermatitis and possible secondary infection. High pressure skin injections are SERIOUS MEDICAL EMERGENCIES. Injury may not appear serious at first. Within a few hours, tissues will become swollen, discolored and extremely painful. See Notes to Physician section.
Effects and hazards of inhalation	Nasal and respiratory tract irritation, central nervous system effects including excitation, euphoria, contracted eye pupils, dizziness, drowsiness, blurred vision, fatigue, nausea, headache, loss of reflexes, tremors, convulsions, seizures, loss of consciousness, coma, respiratory arrest and sudden death could occur as a result of long term and/or high concentration exposure to vapors. May also cause anemia and irregular heart rhythm. Possible cancer hazard based on skin painting studies in laboratory animals

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**Effects and hazards of ingestion** This product may be harmful or fatal if swallowed. This product may cause nausea, vomiting, diarrhea and restlessness. DO NOT INDUCE VOMITING. Aspiration into the lungs can cause severe chemical pneumonitis or pulmonary edema/hemorrhage, which can be fatal. May cause gastrointestinal disturbances. Symptoms may include irritation, depression, vomiting and diarrhea. May cause harmful central nervous system effects, similar to those listed under "inhalation".

**Medical conditions aggravated by exposure** Preexisting eye, skin, heart and respiratory disorders may be aggravated by exposure to this product. Skin contact may aggravate existing dermatitis.

#### Toxicological Information

**HYDROGEN SULFIDE** can affect the body if it is inhaled or if it comes into contact with the eyes, skin, nose or throat. It can also affect the body if it is swallowed. It is colorless and has the odor of rotten eggs. However, its odor cannot be used as an indication of its presence since one of the first effects of H<sub>2</sub>S exposure is the loss of the sense of smell. Inhalation of high concentrations of hydrogen sulfide, 1000 to 2000 ppm, may cause coma after a single breath and may be rapidly fatal, convulsions can also occur. Hydrogen sulfide gas is a rapidly acting systemic poison which causes respiratory paralysis with consequent asphyxia at high concentrations (500 to 1000 ppm). A case of polyneuritis and encephalopathy from one day's exposure to a concentration insufficient to cause loss of consciousness has been reported. It irritates the eyes and respiratory tract at lower concentrations (50 to 500 ppm). Pulmonary edema and bronchial pneumonia may follow prolonged exposure at concentrations exceeding 250 ppm. Exposure to concentrations of hydrogen sulfide around 50 ppm for one hour may produce rhinitis, pharyngitis, bronchitis, pneumonitis, acute conjunctivitis with pain, lacrimation and photophobia, in severe form this may progress to keratoconjunctivitis and vesiculation of the corneal epithelium. In lower concentrations, hydrogen sulfide may cause headache, fatigue, irritability, insomnia, and gastrointestinal disturbances, as well as central nervous system disturbances, causing excitation and dizziness. Repeated exposure to hydrogen sulfide results in increased susceptibility, so that eye irritation, cough and systemic effects may result from concentrations previously tolerated without any effect.

**PETROLEUM DISTILLATES** (naphtha, C<sub>6</sub>H<sub>14</sub>, C<sub>6</sub>H<sub>16</sub>, C<sub>8</sub>H<sub>18</sub> aliphatics) can affect the body if they are inhaled, come in contact with the eyes or skin, or are swallowed. The vapors of petroleum distillates are mild narcotics and mucous membrane irritants. There have been few toxicologic studies, either on animals or man. While 4,000 to 7,000 ppm are tolerated for 1 hour by human subjects, symptoms of narcosis, such as dizziness and drowsiness, occur at these concentrations. Continuing exposure may produce signs of inebriation, followed by headache or nausea. Exposure at 10,000 to 20,000 ppm is regarded as immediately hazardous to life. The higher boiling fractions may produce irritation of the eyes, nose, and throat in addition to symptoms of mild narcosis. No chronic systemic effects have been reported from widespread industrial use. If benzene is present in the distillate; however, the hazard of both acute and chronic poisoning is increased.

Skin painting studies in laboratory animals with products containing **POLYCYCLIC AROMATIC COMPOUNDS** have resulted in severe irritation and systemic toxicity, including cancers. Polycyclic aromatic compounds have been shown to cause anemia, disorders of the liver, bone marrow and lymphoid tissues in rats following dermal application.

While rodent studies are exquisitely sensitive to chemical carcinogens of this type, there is no clear evidence that these chemicals are carcinogenic to man. As a minimum, it has been demonstrated in early studies that application of these materials to human skin produces a fairly rapid local reaction and inflammation.

**Toxicity to animals** LD50: Not available.  
LC50: Not available.

**Remark**

No additional remark.

**Section VIII. First Aid**

<b>Eye contact</b>	<p>Special H2S Warning</p> <p>Care must be taken by those who are rendering aid to the victim because H2S may be in the area and may also overcome the rescuers. Supplied air breathing equipment should be used by rescuers unless it has been determined that the area is free of hydrogen sulfide.</p> <p>Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if pain or redness continues.</p>
<b>Skin contact</b>	<p>Wash exposed area thoroughly with soap and water. Remove contaminated clothing promptly and launder before reuse. Contaminated leather goods should be discarded. If irritation persists or symptoms described in the MSDS develop, seek medical attention. High pressure skin injections are SERIOUS MEDICAL EMERGENCIES. Get immediate medical attention.</p>
<b>Slight inhalation</b>	<p>Remove to fresh air. If breathing is difficult, ensure clear airway and administer oxygen. If not breathing, apply artificial respiration or cardiopulmonary resuscitation. Keep person warm, quiet and get medical attention.</p>
<b>Slight ingestion</b>	<p>Never give anything by mouth to an unconscious person. DO NOT induce vomiting. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis which can be fatal. Give vegetable oil or charcoal slurry to retard absorption. If spontaneous vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs and monitor for breathing difficulty. SEEK IMMEDIATE MEDICAL ATTENTION. Keep person warm and quiet.</p>
<b>Notes to Physician</b>	<p>In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption. Consideration should be given to the use of an intratracheal tube, to prevent aspiration. Irregular heart beat may occur, use of adrenalin is not advisable. Individuals intoxicated by the product should be hospitalized immediately, with acute and continuing attention to neurological and cardiopulmonary function. Positive pressure ventilation may be necessary. After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary edema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated. In case of skin injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.</p>

**Section IX. Precautionary Measures**

<b>Respiratory protection</b>	<p>If workplace exposure limits for product or components are exceeded, NIOSH equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.</p>
<b>Eye protection</b>	<p>Keep away from eyes. Eye contact can be avoided by wearing safety glasses or chemical splash goggles.</p>
<b>Skin protection</b>	<p>Keep away from skin. Skin contact can be minimized by wearing protective gloves such as neoprene, nitrile-butadiene rubber, etc. and, where necessary, impervious clothing and boots. Leather goods contaminated with this product should be discarded. A source of clean water should be available in the work area for flushing eyes and skin.</p>
<b>Ventilation</b>	<p>Avoid breathing mists and vapor. Use in well ventilated area. In confined space, mechanical ventilation may be necessary to reduce vapor concentrations to levels below the allowable exposure limits.</p>
<b>Storage</b>	<p>Store in tightly closed containers in cool, dry, isolated and well ventilated area away from heat, sources of ignition and incompatible materials. Use non-sparking tools and explosion proof equipment. Ground lines, containers, and other equipment used during product transfer to reduce the possibility of a static induced spark. Do not "switch load" because of possible accumulation of a static charge resulting in source of ignition. Use good personal hygiene practices. After handling this product, wash hands before eating, drinking, smoking or using toilet facilities.</p>

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<p><b>Precautions</b></p>	<p>Tanks, vessels, or other confined spaces which have contained product should be freed of vapors before entering. Because H2S can accumulate in tanks, vessels, and bulk transport compartments, personnel should stand upwind, keep their faces at least two feet from compartment openings, and avoid breathing vapors when opening hatches and dome covers. The container should be checked to ensure a safe atmosphere before entry. Empty containers may contain toxic, flammable/combustible or explosive residues or vapors. Do not cut, grind, drill, weld, or reuse empty containers that contained this product. Do not transfer this product to another container unless the container receiving the product is labeled with proper DOT shipping name, hazard class and other information that describes the product and its hazards.</p>
<p><b>Spill and leak procedures</b></p>	<p>If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Combustible Liquid. Review Fire and Explosion Hazard Data before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g., by vacuuming). Precautions in Case of a Spill or Release Stop leak if it can be done without risk. Use water spray to disperse vapors. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 800-424- 8802. For highway or railway spills, contact Chemtrec at 800-424-9300.</p>
<p><b>Waste disposal</b></p>	<p>Dispose of material in accordance with local, county, state and federal regulations. Contact state and federal regulators to determine whether the material should be classified as a hazardous waste or industrial waste and handled accordingly. Use licensed transporter and disposal facility.</p>

**Section X. Regulatory Information**

SARA Title III (302, Section 302/304 Extremely Hazardous Substances 304, 311, 312)

Hydrogen Sulfide

Section 311 Hazard Category

Acute	Chronic	Fire	Pressure	Reactive	Not Applicable
X	X	X			

SARA Title III (313)

NONE

TSCA

On the TSCA inventory list.

Canada DSL

On the DSL list.

California prop 65

This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute:

**Benzene, Toluene.**

State Right-to-know Regulations:

Chemical Name:

State Right-to-know:

Not applicable.

CERCLA/  
SUPERFUND

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4.

OSHA Hazard Determination

This material is hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

Protection of (pursuant to section 611 of the Clean Air Act Amendments of 1990): per 40 CFR part 82, this product  
Stratospheric ozone: does not contain nor was it directly manufactured with any class I or II ozone depleting substance

## Section XI. Labeling Information

Danger! Product May Contain or Release Hydrogen Sulfide.

H<sub>2</sub>S is a highly toxic, highly flammable gas which can be fatal if inhaled at certain concentrations. May cause irritation to eyes, skin and respiratory system. Avoid liquid, mist and vapor contact. Harmful or fatal if swallowed. Aspiration hazard, can enter lungs and cause damage. May cause irritation or be harmful if inhaled or absorbed through the skin. Avoid prolonged or repeated skin contact. Contains polycyclic aromatic compounds which have been shown to cause anemia, disorders of the liver, bone marrow and lymphoid tissues in rats following dermal application. Product is stored and shipped hot so thermal burns are a risk. Combustible Liquid. Vapors may explode.

If swallowed, do not induce vomiting; aspiration hazard. Call physician immediately. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Wash skin with soap and plenty of water. Product soaked clothing should be removed and laundered before reuse. Read Emergency and First Aid Information section of the MSDS.

Use only in well ventilated locations. Keep away from heat, spark and flames. In case of fire, use water spray, foam, dry chemical or carbon dioxide as described in the Fire and Explosion Hazard Data section of the MSDS. Do not pressurize, cut, weld, braze, solder, drill on or near this container. "Empty" container contains residue (liquid and/or vapor) and may explode in heat of a fire.

For industrial use only. Keep out of reach of children. Failure to use caution may cause serious injury or illness. Never siphon by mouth.

DOT DOT CLASS 3: Flammable liquid.



### Disclaimer

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Date prepared 1/12/2000.