

MSDS Document

Product Jet B

1. Chemical Product and Company Identification

Trade Name of this Product Jet B

Synonyms: JP-4

MSDS ID MSDS00600

Manufacturer

Petro Star Inc. North Pole Refinery
1200 H & H Lane
North Pole, AK 99705

Contact Name

Mark Reischke

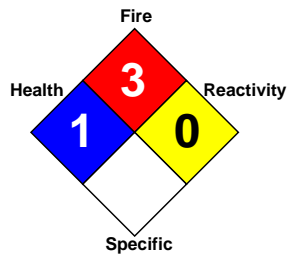
Phone Number

(907) 488-1288

Emergency Phone

(800) 633-8253

Revision Date 00/00/00



Health:	2
Fire:	3
Reactivity:	0
Specific	

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
C5- 11 Naphtha, Solvent Extract	64741-84-0				
A COMPLEX COMBINATION OF C9-C16 HYDROCARBONS PRODUCE BY DISTILLATION OF CRUDE	8008-20-6		NE	500	
n-Hexane	110-54-3		50	500	
Cumene	98-82-8		50	50	
1,2,4-Trimethylbenzene	95-63-6		25	25	

Napthalene	91-20-3	52	50	15
Ethylbenzene	100-41-4	125	100	
Benzene	71-43-2	0.5	1	
Toluene	108-88-3	0	200	
Cyclohexane	110-82-7			
Xylene (mixed)	1330-20-7	100	100	150

3. Hazard Identification

EMERGENCY OVERVIEW WARNING!

HEALTH HAZARDS

MAY BE HARMFUL IF SWALLOWED
ASPIRATION HAZARD IF SWALLOWED-CAN ENTER LUNGS AND CAUSE DAMAGE
MAY CAUSE CARDIAC SENSITIZATION
MAY BE IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
MAY BE HARMFUL IF ABSORBED THROUGH SKIN
CONTAINS MATERIAL WHICH CAN CAUSE REPRODUCTIVE EFFECTS
DANGER-CONTAINS BENZENE-CANCER HAZARD
MAY CAUSE BLOOD DISORDERS
SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

FLAMMABILITY HAZARDS

FLAMMABLE LIQUID
PER OSHA GUIDELINES, 29 cfr 1910.1200(c)

REACTIVITY HAZARDS

STABLE

POTENTIAL HEALTH EFFECTS, SKIN

MODERATE TO SEVERELY IRRITATING. Contact may cause reddening, pain, itching, inflammation and possible tissue damage.

Defatting agent. Repeated or prolonged contact may result in drying, reddening, itching, pain, inflammation, cracking and possible secondary infection with tissue damage.

Absorption from prolonged or repeated skin contact may cause systemic toxicity.

POTENTIAL HEALTH EFFECTS, EYE

SLIGHTLY IRRITATING. May cause slight transient irritation, lacrimation (tears) and a burning sensation in the eyes

Exposure to vapors, fumes or mists may cause irritation.

Prolonged or repeated exposure may cause irritation and conjunctivitis.

POTENTIAL HEALTH EFFECTS, INHALATION

Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

May cause cardiac sensitization, including arrhythmia (irregular heart beat) and death due to cardiac arrest.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

Other specific symptoms of exposure are listed under "Toxicological Information" (Section 11).

POTENTIAL HEALTH EFFECTS, INGESTION

May cause irritation of the mouth, throat and gastrointestinal tract. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage.

Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

4. First Aid Information

SKIN

Immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

EYE

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing.

Get medical attention if irritation persists.

INHALATION

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION

Do not induce vomiting because of danger of aspirating liquid into lungs,, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Gastric lavage should be performed only by qualified medical personnel.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

NOTES TO PHYSICIAN

Gastric lavage may be indicated if ingested. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

In cases of acute poisoning, artificial respiration with administration of oxygen may be useful for support. DO NOT GIVE EPINEPHRINE, EPHEDRINE OR SIMILAR ADRENERGIC DRUGS. THEY MAY INDUCE FATAL VENTRICULAR FIBRILLATION. Electrocardiographic monitoring should be carried out with severely ill patients to anticipate possible cardiac arrest.

Anemia may require the usual supportive measures. Medical evaluation of acute overexposure should include hematological determinations until stable. In severe acute and chronic poisoning, both renal and hepatic damage may occur and should be anticipated in such cases. Respiratory and pulmonary problems may require special attention. After severe acute symptoms have been alleviated, it may be advisable to consider periodic monitoring of the patient until such time as the likelihood of other adverse effects can be discounted.

5. Fire Fighting Measures

Flash Point <-20 F (<-29 C)

HAZARDOUS COMBUSTION PRODUCTS

Combustion may produce hazardous combustion products.

EXTINGUISHING MEDIA

Use water spray, dry chemical, carbon dioxide or fire-fighting foam for Class B fires to extinguish fire.

BASIC FIRE FIGHTING PROCEDURES

Evacuate area and fight fire from a safe distance.

If 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 spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

UNUSUAL FIRE & EXPLOSION HAZARDS

Vapors may form explosive mixture with air. Vapors can travel to a source of ignition and flash back.

Explosion hazard is exposed to extreme heat or to physical or thermal shock.

Flash Point: <-20 F (<29 C) TAG CLOSED CUP (ASTM D56)

Autoignition Temperature: ND

Flammability Limits in Air, Lower, % by Volume: ND

Flammability Limits in Air, Upper, % by Volume: ND

6. Accidental Release Measures

EMERGENCY ACTION

Eliminate and/or shut off ignition sources and keep ignition sources out of the area. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. Isolate for 800 meters (1/2 mile) in all directions if tank, rail car or tank truck is involved in fire. Evacuate area endangered by release as required. (See Exposure Controls/Personal Protection, Section 8.)

ENVIRONMENTAL PRECAUTIONS

Eliminate all sources of ignition. Isolate hazard area and deny entry.

If material is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released material. Notify local authorities and the National Response Center, if required.

SPILL OR LEAK PROCEDURE

Keep unnecessary people away. Isolate area for at least 25 to 50 meters (80 to 160 feet) to preserve public safety. For large spills, consider initial evacuation for at least 300 meters (1000 feet.)

Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e.g. dry sand or earth) then place in a chemical waste container. Large Spills: Dike far ahead of liquid spill for later disposal.

Use a vapor suppressing foam to reduce vapors. Stop leak when safe to do so.

See Exposure Controls/Personal Protection (Section 8).

7. Handling and Storage

HANDLING

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld or

reuse containers unless adequate precautions are taken against these hazards.

Do not eat, drink or smoke in areas of use or storage.

STORAGE

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers.

Empty containers may contain material residue. Do not reuse without adequate precautions.

Do not eat, drink or smoke in areas of use or storage.

8. Exposure Controls and Personal Protection

ENGINEERING CONTROLS

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Keep away from eyes. Eye contact can be avoided by using chemical safety glasses, goggles, and/or face shield. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Avoid skin contact with this material. Use appropriate chemical protective gloves when handling. Additional protective clothing may be necessary.

Good personal hygiene practices such as properly handling contaminated clothing, using wash facilities before entering public areas and restricting eating, drinking and smoking to designated areas are essential for preventing personal chemical contamination.

RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

A NIOSH approved air purifying respirator with an appropriate cartridge or canister, such as an organic vapor cartridge, may be used in circumstances where airborne concentrations may exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

9. Physical and Chemical Properties

Physical State	Liquid
Specific Gravity	0.75
Density lbs/Gal.	6.26
Color/Appearance	Clear
Odor	ND
pH	ESSENTIALLY NEUTRAL
Boiling/Cond. Point	162 F
Melting/Freezing Point	-85 F

Solubility	NEGLIGIBLE
Evaporation Rate	ND
VOC %	ND
Percent Volatile	ND
Molecular Formula	ND
Viscosity	ND
Vapor Density	ND
Vapor Pressure	2.5 psi at 100 F

10. Stability and Reactivity

STABILITY/INCOMPATIBILITY

Incompatible with oxidizing agents. See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce hazardous combustion products and other decomposition products in the case of incomplete combustion.

11. Toxicological Information

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

LD50

LD50 - >5 g/kg (rats, oral) - similar material

LD50 - >2 g/kg (rats, dermal) - similar material

LC50

LC50 - No specific information

TOXICOLOGICAL DATA

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: anemia.

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: skin, blood elements, liver, kidney, cardiovascular, nervous and respiratory system.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as solvent or painter's syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

This material may contain n-hexane. n-Hexane is a skin, eye and respiratory tract irritant. It is a cardiac sensitizer, central nervous system depressant and a neurotoxin. Acute exposure may result in dizziness, asphyxia, anesthesia, brain damage and cardiac arrest at high concentrations. Repeated or prolonged exposure may result in peripheral neuropathy,

characterized by progressive weakness, facial and limb numbness, color vision abnormalities and paralysis of the limbs. It has been observed to cause damage to the testes and fetal effects in a two-generation animal study. NTP has reported it to cause liver tumors in female mice. Persons with skin, lung, liver or kidney disorders may be at increased risk.

This material may contain toluene. Toluene is an eye, skin, and respiratory tract irritant as well as a central nervous system depressant. Overexposure may result in damage to the brain, liver, kidney, cardiovascular, respiratory and neurological systems. Prolonged and repeated exposure may result in behavioral effects, anemia, and color vision abnormalities, blindness and hearing loss. It has been shown to produce reproductive effects in both humans and laboratory animals. It has also been reported to produce cardiac sensitization. Repeated or prolonged exposure to toluene may result in skin absorption, which may result in toxic effects. IARC has determined that there is inadequate evidence for the carcinogenicity of toluene in humans and experimental animals (IARC Class 3).

This material may contain benzene. Acute benzene poisoning causes central nervous system depression. Chronic exposure affects the hematopoietic system causing blood disorders including anemia and pancytopenia.

This material may contain naphthalene. Naphthalene can be harmful by any route of exposure. Humans may be more sensitive to naphthalene than laboratory animals. Naphthalene can cause skin and eye irritation and acute central nervous system effects. It can also cause blood effects, including hemolytic and aplastic anemia, cataracts, liver and kidney damage. Following maternal exposure, naphthalene has also been reported to cause fetal blood system, liver and possibly eye damage. In a 2-year lifetime inhalation bioassay, female mice showed a significantly increased incidence of pulmonary alveolar and bronchiolar adenomas. On this basis, NTP has determined that there is some evidence of naphthalene carcinogenicity in female mice. Both male and female mice showed evidence of chronic inflammation and its associated response in the respiratory system.

CARCINOGENICITY

This material may contain benzene. Benzene is carcinogenic to laboratory animals when given to intubation or by inhalation. There is an association between occupational exposure to benzene and human leukemia. Carcinogenic determinations: IARC human positive and animal suspected carcinogen (IARC Class 1); NTP known carcinogen; ACGIH suspected carcinogen; OSHA carcinogen.

This material may contain ethylbenzene. IARC has determined that there is sufficient evidence for the carcinogenicity of ethylbenzene in experimental animals and inadequate evidence for the carcinogenicity of ethylbenzene in humans. (IARC Class 2B)

This material may contain naphthalene. IARC has determined that there is sufficient evidence for the carcinogenicity of naphthalene in experimental animals and inadequate evidence for the carcinogenicity of naphthalene in humans. (IARC Class 2B)

TERATOGENICITY, MUTAGENICITY, OTHER REPRODUCTIVE EFFECTS

This material may contain components which may cause adverse reproductive and/or development effects.

This material may contain benzene. Mutagenic and clastogenic in mammalian and

non-mammalian test systems. Reproductive or developmental toxicant only doses that are maternally toxic, based on tests with animals.

Pregnant women may be at increased risk from exposure.

Consumption of alcoholic beverages may enhance toxic effects.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

Preexisting medical conditions which may be aggravated by exposure include skin, liver, kidney, blood, respiratory, cardiovascular and nervous system.

SYNERGISTIC MATERIALS

ND

12. Ecological Information

ECOTOXICOLOGICAL INFORMATION

ND

13. Disposal Considerations

WASTE DISPOSAL

This material, as supplied, when discarded or disposed of, is a hazardous waste according to Federal Regulations due to the material exhibiting a hazardous characteristic under Subpart C of 40 CFR 261. Under RCRA, it is the responsibility of the user of the material to determine, at the time of disposal, whether the material meets RCRA criteria for hazardous waste.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

14. Transportation Information

BILL OF LADING - BULK (U.S. DOT)

Fuel, Aviation, Turbine Engine, 3, UN1863, PG II

BILL OF LADING - NON-BULK (U.S. DOT)

Fuel, Aviation, Turbine Engine, 3, UN1863, PG II

U.S. DEPARTMENT OF TRANSPORTATION (DOT) REQUIREMENTS

General Transportation Information for Bulk Shipments

Proper Shipping Name: Fuel, Aviation, Turbine Engine
Hazard Class: 3 UN/NA Code: UN1863
Packaging Group: PG II
Labels Required: None
Placards Required: Combustible Liquid, UN1863
Reportable Quantity: See Regulatory Information (Section 15)

General Transportation Information for Non-Bulk Shipments

Proper Shipping Name: Fuel, Aviation, Turbine Engine
Hazard Class: 3 UN/NA Code: UN1863
Packaging Group: PG II
Labels Required: None
Placards Required: Combustible Liquid, UN1863
Reportable Quantity: See Regulatory Information (Section 15)

Comments

The above description may not cover shipping in all cases, please consult 49 CFR 100-185 for specific shipping information.

15. Regulatory Information

FEDERAL REGULATIONS

All ingredients are on the TSCA inventory, or are not required to be listed on the TSCA inventory.

Consult OSHA's Benzene standard 29 CFR 1910.1028 for provisions on air monitoring, employee training, medical monitoring, etc.

A release of this material, as supplied, may be exempt from reporting under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA - 40 CFR 302) by the petroleum exclusion. Releases may be reportable to the National Response Center (800-424-8802) under the Clean Water Act, 33 U.S.C. 1321(b)(3) and (5).

This material may contain toxic chemical(s) in excess of the applicable de minimis concentration that are subject to the annual toxic chemical release reporting requirements of the Super fund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

This material contains one or more substances listed as hazardous air pollutants under Section 112 of the Clean Air Act.

Check local, regional or state/provincial regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to report may result in substantial civil and criminal penalties.

STATE REGULATIONS

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

SARA 311/312 HAZARD CATEGORIES

Immediate Hazard: X Delayed Hazard: X Fire Hazard: X Pressure Hazard: - Reactivity Hazard: -

NFPA RATINGS

Health: 1 Flammability: 3 Reactivity: 0 Special Hazards: -

HMIS RATINGS

Health: 2* Flammability: 3 Reactivity: 0

Following ingredients of this material are listed in SARA 313 above the deminimis concentration

SARA Listed ingredient Name / CAS Number

N-Hexane / 110-54-3

CYCLOHEXANE / 110-82-7

XYLENES / 1330-20-7

TOLUENE / 108-88-3

BENZENE / 71-43-2

ETHYLBENZENE / 100-41-4

NAPHTHALENE / 91-20-3

1,2,4-TRIMETHYLBENZENE / 95-63-6

CUMENE / 98-82-8

16. Other Information

DISCLAIMER

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, an MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.