



The X-1R Corporation

Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: X-1R Liquid Nitrous Octane Booster

MANUFACTURER: The X-1R Corporation
ADDRESS: 375 Fentress Blvd. Daytona Beach, FL 32114

PRODUCT INFORMATION: 1-386-271-7000
EMERGENCY PHONE: 1-800-424-9300 (Inside U.S.)
1-703-527-3887 (Outside U.S.)
FAX: 1-386-271-7001

CHEMICAL NAME: Not Applicable
CHEMICAL FAMILY: Hydrocarbon
CHEMICAL FORMULA: Proprietary

PRODUCT USE: Gasoline Additive used to increase octane number.
APPROVED BY: J. A. Ketchledge

SECTION 2: HAZARDS IDENTIFICATION

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

GHS Classification of the product:

Aspiration Hazard:	Category 1
Skin Corrosion/Irritation:	Category 2
Serious eye damage/eye irritation:	Category 2B
Aquatic Chronic, Hazardous to the aquatic environment:	Category 2

Label Elements:

Pictogram:



Signal Word: Danger

Hazard Statements:

H320 Causes eye irritation
H315 Causes skin irritation
H312 Harmful in contact with skin
H332 Harmful if inhaled
H304 May be fatal if swallowed and enters airways
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements (Prevention):

P280 Wear protective gloves/protective clothing/eye protection/face protection
P271 Use only outdoors or in a well-ventilated area
P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking
P273 Avoid release to the environment
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash with plenty of water and soap thoroughly after handling
P233 Keep container tightly closed

Precautionary Statements (Response):

P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301 + P310 + P331 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P303 + P352 IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.
P370 + P378 In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction

Precautionary Statements (Storage):

P405 Store locked up
P403 + P235 Store in a well-ventilated place. Keep cool.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified: None known

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

EMERGENCY OVERVIEW: Orange liquid with aromatic odor. (See Section 9). Avoid contact with eyes and excessive contact with skin (See Section 3 below). Avoid contact with strong oxidizing agents. Protect against decomposition products of oxides of carbon.

HMIS RATING: HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 0 PPE: B

ROUTES OF ENTRY: Inhalation, skin contact, and swallowing.

POTENTIAL HEALTH EFFECTS:

EYES: Eye irritation

SKIN: Skin irritation.

INGESTION: Vomiting may result. Pulmonary aspiration hazard if vomiting occurs

INHALATION: Irritation of the respiratory tract; headache, nausea dizziness, weakness and fatigue.

ACUTE HEALTH HAZARDS: Breathing - Irritation of the respiratory tract; headache, nausea dizziness, weakness and fatigue. Extreme exposure can result in unconsciousness and even respiratory arrest. **Eye Contact** - Eye irritant. **Skin Contact** - Prolonged and repeated skin contact may cause defatting and dermatitis. **Swallowing** - Vomiting may result. Pulmonary aspiration hazard if vomiting occurs.

CHRONIC HEALTH HAZARDS: Reports have associated repeated and prolonged occupational overexposure to hydrocarbon solvents with permanent brain and nervous system damage.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None when used in accordance with the Special Protection Information (Section VIII).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>Wt%</u>
Methylcyclopentadienyl Manganese Tricarbonyl	12108-13-3	1 - 4
Petroleum distillates, straight run, middle	64741-44-2	90 - 95
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	1 - 3
1, 2, 4-trimethylbenzene	95-63-6	0.1 - 0.3
Naphthalene	91-20-3	0.1 - 0.3

A subset of the components listed above has been tested as a mixture.

SECTION 4: FIRST AID MEASURES

EYES: Flush immediately with large amounts of water for at least 15 minutes. Get medical assistance if irritation persists.

SKIN: Wash affected area with soap and water. Remove soiled clothing. Get medical assistance if irritation persists. Wash clothing before reuse.

INGESTION: DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN IMMEDIATELY. Aspiration of vomitus can cause chemical pneumonitis that can be fatal.

INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, summon medical assistance immediately. If breathing ceases, restore using approved CPR techniques and summon medical assistance immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Treat as any exposure to any hydrocarbon based material (See Section 3 for observable signs/symptoms).

SECTION 5: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: **Flash Point:** > 200 °F (Method: T.C.C.)
Burn Rate: Unknown

FLAMMABLE LIMITS: Lower Flammable Limit: Not Established.
Upper Flammable Limit: Not Established.

FLAMMABILITY CLASSIFICATION: N/A. **AUTOIGNITION TEMPERATURE:** Not Established.

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide and Carbon Dioxide. Metallic Oxides

EXTINGUISHING MEDIA: Carbon dioxide (CO₂), dry chemical, foam or other National Fire Protection Association (NFPA) approved method for treating a Class B fire.

ADDITIONAL CONSIDERATIONS: None.

SPECIAL FIRE FIGHTING INSTRUCTIONS: Summon professional firefighters. Use full protective equipment including self-contained breathing apparatus. Water spray may be ineffective. If water is used, fog nozzles are preferable. If exposed to fire or extreme heat, water should be used to cool closed containers and prevent pressure build-up or possible auto-ignition.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Keep containers tightly closed. Isolate from heat and flame. Due to pressure build-up, closed containers exposed to extreme heat may explode. Never use a welding or cutting torch on or near container (even empty) as product or its residue may ignite. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

NFPA RATING:**HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 0 PROTECTIVE EQUIPMENT: B**

SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition (flames, hot surfaces, and electrical, static or frictional sparks). Do not smoke. Prevent breathing of vapors. Ventilate area. Before attempting to clean up, refer to hazard caution information in other sections of this material safety data sheet. Dike and contain spilled material and remove with inert absorbent and non-sparking tools. Store in closed container until product can be properly disposed of. Dispose of in accordance with local, state and federal regulations. Incinerate only in an approved facility. Do not incinerate closed containers.

CERCLA (SUPERFUND) REPORTABLE QUANTITY (in lbs.): Refer to Section 311 of The Clean Water Act.

SECTION 7: HANDLING AND STORAGE

HANDLING: Keep away from heat, flame and sparks. Do not smoke. Prevent build-up of vapors by maintaining continuous flow of fresh air.

STORAGE: Do not store above 120°F or near fire of open flame. Store large quantities in buildings to comply with OSHA 1910.106. Keep container closed when not in use. Do not transfer contents to bottles or other unlabelled containers. Do not reuse empty containers. Keep out of reach of children.

INCOMPATIBLE MATERIALS: Strong oxidizers.

VENTILATION: Use with adequate ventilation. Use good engineering practices to establish ventilation.

SPECIAL PACKAGING MATERIALS: Not applicable

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use with adequate ventilation.

EYE / FACE PROTECTION: Use chemical goggles; solvent impermeable clothing should be worn if contact is likely; maintain ready access to eye bath and safety shower.

SKIN PROTECTION: Use Neoprene or equivalent gloves.

RESPIRATORY PROTECTION: When used in restricted ventilation areas, wear NIOSH/MDHS approved chemical/mechanical filters designed to remove a combination of particulates and vapor. When used in confined areas, wear NIOSH/MSHA approved air supply respirators or hoods. Follow respirator manufacturer's directions for respirator use. If respirators are used, a program should be established to assure compliance with OSHA Standard 29 CFR 1910.134. Use product only with adequate ventilation. Use either local exhaust or mechanical means to meet TLV requirements. Ventilation must be sufficient to limit employee exposure at, or below applicable health and safety standards. Heavy solvent vapors should be removed from lower levels of work areas.

EXPOSURE GUIDELINES:**Petroleum distillates, straight run, middle:**PEL (OSHA): TWA: 5 mg/m³, 8 hrs.TLV (ACGIH): TWA: 5 mg/m³, 8 hrs.**Methylcyclopentadienyl Manganese Tricarbonyl:**PEL (OSHA): 0.2 mg/m³ as Mn, 8 hr TWA;TLV (ACGIH): 0.2 mg/m³ as Mn, 8 hr TWA**Solvent naphtha (petroleum), heavy aromatic:**PEL (OSHA): 500 ppm, 8 hr TWA, 2000 mg/m³, 8 hr TWA

TLV (ACGIH): Not available

1, 2, 4-trimethylbenzene:

PEL (OSHA): None established

TLV (ACGIH): 25 ppm, 8 hr TWA

Naphthalene:

PEL (OSHA): 10 ppm, 8 hr TWA

TLV (ACGIH): 10 ppm, 8 hr TWA; 15 ppm STEL

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Orange/Amber Liquid
ODOR:	Aromatic
pH:	Not Available
BOILING POINT:	> 250 °F
FREEZING POINT:	Not Available
VAPOR PRESSURE:	Not Available
EVAPORATION RATE:	Less than ether
SPECIFIC GRAVITY (H₂O = 1):	0.81 - 0.85
SOLUBILITY IN WATER:	Negligible

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Product is stable

CONDITIONS TO AVOID: Heat, sparks, flames.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Thermal decomposition may yield carbon monoxide carbon dioxide and metallic oxides.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE EFFECTS: Eye irritation

SKIN EFFECTS: Skin irritation; Prolonged and repeated skin contact may cause defatting and dermatitis.

INGESTION EFFECTS:No data

INHALATION EFFECTS: No data

SUBCHRONIC EFFECTS: No data

CHRONIC EFFECTS/CARCINOGENICITY: No data

EPIDEMIOLOGY: No data

TERATOLOGY: No data

REPRODUCTIVE EFFECTS: No data

NEUROTOXICITY: No data

MUTAGENICITY: No data

Methylcyclopentadienyl Manganese Tricarbonyl (62 %):

Inhalation vapor LC50 (1 hr)..... > 19.8 mg/l, in rats

Skin Absorption LD50..... > 2,000 mg/kg in rabbits

Oral LD50..... 175 mg/kg in rats

Petroleum distillates, straight run, middle:

Inhalation 4 hour LC50..... No data available

Skin absorption LD50..... No data available

Oral LD50..... >5,000 mg/kg in rats

Solvent naphtha (petroleum), heavy aromatic:

Inhalation 6 hour LC50..... > 11.67 mg/L in rats
Skin Absorption LD50..... 3,160 mg/kg in rabbits
Oral LD50..... > 5,000 mg/kg in rats

Naphthalene:

Inhalation 15 minute LC50..... >0.34 mg/L in rats
Skin Absorption LD50..... 10,000 mg/kg in rabbits
Oral LD50..... 1,780 mg/kg in rats

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: No data

ENVIRONMENTAL FATE: No data

Methylcyclopentadienyl Manganese Tricarbonyl (MMT):

96 hour LC50, fathead minnows: 0.21 – 0.34 mg/L
24 hour LC50, magna: 0.94 mg/L
48 hour LC50, magna: 0.83 mg/L

Solvent naphtha (petroleum), heavy aromatic:

96 hours Acute LC50, Fish : 2 – 5 mg/l
72 hours Acute EC50, Algae : 1 – 3 mg/l
48 hours Acute EC50, Daphnia : 3 – 10 mg/l

1,2,4-trimethylbenzene:

96 hours Acute LC50, Fish : 7.72 mg/l

Naphthalene:

96 hours Acute LC50, Fish : 1.6 mg/l
48 hours Acute EC50, Daphnia Magna : 1.96 mg/l (Fresh Water)
48 hours Acute LC50, Crustaceans : 2350 µg/l (Marine Water)

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations. Incinerate only in an approved facility. Do not incinerate closed containers.

SECTION 14: TRANSPORT INFORMATION

DOT:

SHIPPING NAME:	Not Regulated by DOT
UN/NA NUMBER:	N.A.
HAZARD CLASS/DESCRIPTION:	N.A.
PACKING GROUP	N.A.

IMO/IMDG:

PROPER SHIPPING NAME:	Not Regulated by IMO/IMDG
UN/NA NUMBER:	N.A
HAZARD CLASS/DESCRIPTION:	N.A
PACKING GROUP	N.A
MARINE POLLUTANT:	No
FLASH POINT:	> 93 °C

IATA/ICAO:

PROPER SHIPPING NAME:	Not Regulated by IATA/ICAO
UN/NA NUMBER:	N.A.
HAZARD CLASS:	N.A
PACKING GROUP:	N.A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA: All components appears in TSCA Inventory

CERCLA SARA HAZARD CATEGORY:

SECTION 311 AND 312: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: Chronic Health Hazard

SECTION 313: This product contains following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: 1,2,4-Trimethyl benzene (0.1-0.3%); Manganese Compounds (1-4%); Naphthalene (0.1 - 0.3%)

STATE REGULATIONS:

1,2,4-trimethylbenzene, Naphthalene can be found on the following state right to know lists: New York, New Jersey, Pennsylvania, Massachusetts.

California Prop. 65: This product contains following chemical(s) known to the State of California to cause cancer: Naphthalene

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: Additional information available upon request.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): Additional information available upon request.

EINECS: Additional information available upon request.

SECTION 16: OTHER INFORMATION

The information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of The X-1R Corporation. The Data on this sheet related only to the specific material designed herein. The X-1R Corporation assumes no legal responsibility for the use or reliance on this data.

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