Product #(s) – IC12

Material Safety Data Sheet

For Emergency Call:
CHEM-TEL (800) 255-3924 24 Hour Assistance

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Master Engine Tune-up
Master Fuel Injector Cleaner
Blain Fuel Injector Cleaner Concentrate
P-Force LPJ9106 Fuel Injector Cleaner

CAS Number: 64742-82-1
Recommended Uses: Fuel Injector Cleaner / Engine Tune-up
Company Identification
Manufacturer's Name: Master Chemical
Address: 4635 Willow Drive, Medina, MN 55340
Telephone – General Information: (612) 478-2360

2. HAZARDS IDENTIFICATION

Hazard Classes: Flammable Liquid Category 3
Skin Corrosion/Irritation Category 2
Carcinogenicity Category 2
Specific Target Organ Toxicity Single Exposure Category 3
Aspiration Hazard Category 1
Aquatic Toxicity-Long Term Category 2

Signal Word: DANGER

Hazard Statements:

H226	Flammable Liquid and Vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children,
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical lighting and equipment.
P242	Use only non-sparking tools.

Product #(s) – IC12

P243	Take precautionary measures against static discharge.
P261	Avoid breathing vapors.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves / protective clothing / eye protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332 + P313	IF skin irritation occurs: Get medical advice/attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P312	Call POISON CENTER or doctor if you feel unwell.
P370 + P378	In case of fire: Use dry chemical, CO_2, alcohol-resistant foam, and water spray for extinction. .
P391	Collect spillage.
P403 + P233	Store in well-ventilated place. Keep container tightly closed.
P501	Disposal: Dispose of contents/container to a specialized waste disposal plant in accordance with local/regional regulations

Hazard Pictograms:

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Typical Weight Percentage	CAS Number
Hydrodesulfurized Naphtha, Heavy…C7-C12	99%	64742-82-1
Cumene	<1%	98-82-8
Ethylbenzene	<0.2	100-41-4
Other components are non-hazardous or not above regulatory concentration cut-offs	1%	Mixture

4. FIRST AID

Eyes: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Remove contaminated shoes and clothing and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse.

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: Aspiration hazard. Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek immediate medical attention.

Notes to Physicians: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

Medical Conditions: Conditions which may be aggravated by exposure include skin disorders. Exposure to high concentrations of this material may increase the sensitivity of the heart to certain drugs. Persons with pre-existing heart disorders may be more susceptible to this effect (see Note to Physician above).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, CO2, water spray or alcohol-resistant foam. .Water spray is recommended to cool or protect exposed materials or structures. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Specific Hazards: This material is flammable and can be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Flame is invisible in daylight. Vapors may travel considerable distances to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Vapors are heavier than area and can accumulate in low areas.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide and other products of incomplete combustion.

Special Firefighting Procedures: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Flammable. Spilling of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof equipment is recommended. Stay upwind and away from

spill/release. For large spills, notify people down-wind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done with minimal risk. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water, notify appropriate authorities. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface water, may require notification of the National Response Center (phone number 800-424-8802).

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand, earth or other non-combustible material, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g., skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Keep away from ignition sources such as heat/sparks/open flames – No smoking. Take precautionary measures against static discharge. Non-sparking tools should be used. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see Section 8).

Flammable. May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. Open container slowly to relieve any pressure. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by bonding and grounding containers and equipment before transferring material. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-77 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practice.

Conditions for Safe Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL

Hydrodesulfurized Naphtha, Heavy (as Stoddard Solvent)	100 ppm	None	500 ppm	None
Cumene	50 ppm	None	50 ppm (Skin)	None
Ethylbenzene	20 ppm	None	100 ppm	None

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.

Specific Personal Protective Equipment

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation or injury. Depending on conditions of use, a face shield may be necessary.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Viton® and nitrile rubbers.

Respiratory Protection: Where there is potential for airborne exposure above the exposure limits, a NIOSH approved air purifying respirator with an organic vapor cartridge may be used.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Air-purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration as directed by regulation or the manufacturer's instructions, in oxygen deficient (less than 19.5% oxygen) situations or under conditions that are immediately dangerous to life and health (IDLH).

Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light amber liquid
Odor: Characteristic hydrocarbon solvent odor
Odor threshold: No data
pH: Not applicable
Melting/Freezing Point: Not available
Boiling Range: 157 to 218˚C / 315-425 ˚F

Flash Point: 42 ˚C / 108 ˚F (Tagliabue Closed Cup)
Auto-Ignition Temperature: 230 ˚C / 446 ˚F
Evaporation rate (butyl acetate = 1): >1
Flammability (solid, gas): Not applicable
Explosive Limits: Lower – 0.5%/ Upper – 6%
Vapor Pressure: 0.22 mmHg @ 20 ˚C / 68 ˚F using an Isoteniscope
Vapor Density (air = 1): 4.7
Specific gravity (H_20 = 1): 0.794 @ 20˚C / 68 ˚F
Solubility in water: Very slightly soluble in cold water (<0.1% w/w)
Partition Coefficient: 2.1 to 5
Decomposition Temperature: No data
Viscosity: < 20.5 cSt @ 40 ˚C / 104 ˚F

10. STABILITY AND REACTIVITY

Stability (thermal, light, etc.): Stable under normal conditions of storage and handling.

Conditions to Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Incompatibility (materials to avoid): Avoid contact with strong acids, alkalies and oxidizers such as liquid chlorine and oxygen.

Hazardous Decomposition Products: Thermal decomposition may release carbon monoxide and carbon dioxide..

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Product/Ingredient Name	Result (estimated based on similar material)	Species	Dose
Hydrodesulfurized Naphtha, Heavy	LD50 Oral LD50 Dermal LC50 Inhalation (vapor)	Rat Rabbit Rat	≥5 g/kg >2 g/kg >5.2 mg/l

Skin Corrosion/Irritation: Causes skin irritation. Repeated exposure may cause dryness or cracking.

Serious Eye Damage/Irritation: Causes mild irritation.

Signs and Symptoms: High concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, vomiting.

Skin Sensitization: None reported

Respiratory Sensitization: No data found.

Germ Cell Mutagenicity: There is insufficient information available to conclude that this material is mutagenic.

Carcinogenicity: Repeated skin application of various petroleum naphthas in mice for two years resulted in an increased incidence of skin tumors but only in the presence of severe skin irritation. Follow-up mechanistic studies suggest that the occurrence of these tumors may be the consequence of promotional processes and not relevant to human risk assessment.

This material is not identified as a carcinogen by NTP, IAR or OSHA, however, minor components have been identified as possibly being carcinogenic (see below).

Reproductive Toxicity: There is insufficient information available to conclude that this material is a reproductive toxicant.

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness and dizziness.

Specific Target Organ Toxicity (Repeated Exposure): Ninety days study of various petroleum naphthas did not produce significant target organ toxicity in laboratory animals. Nephropathy in male rats, characterized by the accumulation of alpha-2-u-globulin in epithelial cells of the proximal tubules was observed, however follow-up studies suggest that these changes are unique to the male rat.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Information on Toxicological Effects of Components:

Ethylbenzene – Carcinogenicity: Rats and mice exposed to 0, 75, 250 or 750 ppm ethylbenzene in a two year inhalation study demonstrated limited evidence of kidney, liver and lung cancer. Ethylbenzene has been listed as possible human carcinogen by IARC (2B)

Cumene – Carcinogenicity: Studies in laboratory animals indicate evidence of adverse effects. IARC has classified cumene as possibly carcinogenic to humans (2B).

12. ECOLOGICAL INFORMATION

Toxicity: Acute aquatic toxicity studies on samples of naphtha streams show acute toxicity values greater than 1 mg/L. These tests were carried out on water accommodated fractions, in closed systems to prevent evaporative loss. Results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon composition. These substances should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment. Classification: H411; Chronic Category 2

Persistence and Degradability: The hydrocarbons in this material are not readily biodegradable but are regarded as inherently biodegradable since their hydrocarbon components can be degraded by microorganism.

Bioaccumulative Potential: Log Kow values measured range from 2.1 to 5 and therefore are regarded as having the potential to bioccumulate. In practice, metabolic processes or physical properties may prevent this effect or limit bioavailability.

Mobility in Soil: On release to water, hydrocarbons will float on the surface and since they are sparingly soluble, the only significant loss is volatilization to air. In air, these hydrocabons are photodegraded by reaction with hydroxyl radicals with half-lives varying from 6.5 days for benzene to 0.5 days for n-dodecane.

Product #(s) – IC12

Other Adverse Effects: None known

13. DISPOSAL CONSIDERATIONS

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic of ignitability (D001). See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

14. TRANSPORT INFORMATION

DOT/TDG Proper Shipping Name: Petroleum Distillates, n.o.s. (Naphtha Solvent)
DOT/TDG Identification Number: UN1268
DOT/TDG Hazard Class: 3
DOT/TDG Packing Group: III
ERG Guide Number: 128
Marine Pollutant: No

15. REGULATORY INFORMATION

TSCA: This material and/or its components are listed on the TSCA inventory or not regulated by TSCA.

DSL: This material and/or its components are listed on the DSL inventory or are exempt from DSL listing requirements.

OSHA (Occupational Safety and Health Administration): This material is considered to be hazardous as defined by the OSHA Hazard Communication Standard**.**

This material has not been identified as a carcinogen by NTP, IARC or OSHA however, components are listed by IARC (see Section 11).

CERCLA/SARA – Section 302 Extremely Hazardous Substances and TPQ (in pounds): This material does NOT contain chemicals subject to the reporting requirements of SARA 302 and 40 CFR 355 Appendix A and B.

EPA (CERCLA) Reportable Quantity (in pounds): Although EPAs Petroleum Exclusion applies to this material (CERCLA 101(14)), chemical substances present in this product may be subject to the reporting requirements of 40 CFR 302.4:

Component	CAS#	Reportable Quantity
Cumene	98-82-8	5000 lbs
Ethylbenzene	100-41-4	1000 lbs

Product #(s) – IC12

CERCLA/SARA - Sections 311/312 (Title III Hazard Categories):
Acute: Yes Chronic: Yes Fire: Yes Reactivity: No

CERCLA/SARA – Section 313 and 40 CFR 372: This material contains the following chemicals subject to the reporting requirements of SARA 313 and SARA Title III and 40 CFR:

Component	Concentration	de minimis
1,2,4-Trimethylbenzene	<2.5%	1%
Cumene	<1%	0.1%
Ethylbenzene	<0.2%	0.1%

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material contains detectable chemicals known to the State of California to cause cancer and/or reproductive toxicity.

Component	Concentration	Effect
Cumene	<1%	Cancer
Ethylbenzene	<0.2%	Cancer

Canada:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class: B2, D2A, D2B

16. OTHER INFORMATION

Issue Date: April 24, 2012
Previous Issue Date: January 5, 2010
Change: Updated to new GHS compliant HCS 2012 criteria

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