SHIELD CHEMICALS (PTY) LTD

MATERIAL SAFETY DATA SHEET

Instant Engine Starter 375ml

1 - IDENTIFICATION OF THE PRODUCT AND COMPANY	
PRODUCT NAME	Instant Engine Starter 375ml
PRODUCT CODE	SH352
APPLICATION	For the quick starting of diesel and petrol engines
SUPPLIER AND MANUFACTURER	Shield Chemicals (Pty) Ltd No. 9 London Road, Apex, Benoni Gauteng South Africa
CONTACT NUMBERS O/H 07h30 – 17h00 Monday – Friday	T) +27-11-421-7111 F) +27-11-421-0475
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CONTACT PERSON	Mr. J Clark

2 - HAZARDS IDENTIFICATION
Highly Flammable
Harmful or fatal if swallowed. Toxic vapour. Excessive inhalation may be fatal. Vapours may cause flash fires. Eye irritant.

3 - COMPOSITION/INFORMATION ON INGREDIENTS		
Name	**CAS #**	**Amount**
Diethyl ether	60-29-7	30 -35%
Gasoline	8006-61-9	25-30%
Dipropylene glycol monomethyl ether	34590-94-8	1-5%
Liquefied petroleum gas	68476-85-7	35-40%
Carbon dioxide	124-38-9	0-0.5%

4 - FIRST AID MEASURES	
GENERAL INFORMATION	Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.
INHALATION	Remove victim from the source of exposure to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Seek medical attention immediately.
INGESTION	Aspiration hazard if swallowed. Can enter lungs and cause lung damage. If vomiting occurs, keep head lower than hips to help prevent aspiration. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention immediately.
SKIN CONTACT	Wash thoroughly with water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If irritation persists, seek medical attention.
EYE CONTACT	Make sure to remove any contact lenses from the eyes before rinsing. Rinse thoroughly with plenty of water for 15 minutes and seek medical attention.

5 - FIRE-FIGHTING MEASURES	
CLASSIFICATION	Highly flammable
EXTINGUISHING MEDIA	Use Foam, Carbon dioxide (CO_2) or dry powder extinguishers.
EXPOSURE HAZARDS	Combustion may evolve hazardous gasses. Aldehydes, carbon dioxide and carbon monoxide, organic compounds, hydrocarbons
REMARKS	Material is volatile and readily gives off vapors which may travel

	along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product can ignite explosively. Wear full firefighting turn-out gear and respiratory protection.

6 - ACCIDENTAL RELEASE MEASURES	
Method of disposal	Suppress gases/vapours/mists with a water spray jet. Contain spillage, soak up with non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations.
Personal Protection	See section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Eliminate all ignition sources.
Environmental Precautions	Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities that a spill has occurred.

7 - HANDLING AND STORAGE	
HANDLING	Do not inhale vapour and do not ingest. Do not add any other substances to this product. Containers may be hazardous when emptied. Avoid prolonged or frequently repeated skin contact with this material
STORAGE	Do not puncture, incinerate or store above 50ºC. Do not store in passenger compartment of motor vehicle. Store upright in original closed containers. Keep away from heat or sources of ignition. Keep away from oxidizing or flammable materials.

8 - EXPOSURE CONTROLS/PERSONAL PROTECTION	
EYE PROTECTION	Wear splash goggles. Maintain eye wash station near work area.
SKIN/HAND PROTECTION	Wear normal work clothing including long pants, long sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. Wear gloves that are resistant to solvents.
INHALATION	Provide sufficient mechanical ventilation to maintain exposure below levels that cause known, suspect or apparent adverse effects

9 - PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE	Aerosol
COLOUR	Colourless
ODOUR	Sweet, pungent odour
BOILING POINT	35.5ºC
RELATIVE DENSITY @ 25°C	0.7134 (typical)
FLASH POINT	-16ºC
VAPOUR PRESSURE, psig	80-90
SOLUBILITY IN WATER	Negligible
VOC	100%
EVAPORATION RATE	>1 (Butyl Acetate = 1)
VAPOUR DENSITY (AIR=1)	>1

10 – STABILITY AND REACTIVITY	
STABILITY	Stable under normal conditions of use
HAZARDOUS POLYMERISATION	Will not occur
MATERIALS TO AVOID	Keep away from heat, sparks or flame. Avoid any source of ignition. Do not expose to heat or store at temperatures above 40ºC.
INCOMPATIBLE MATERIALS	Contact with oxidizing agents. Concentrated oxygen. Nitric acid. Avoid contact with chlorine in the presence of light.
HAZARDOUS DECOMPOSITION PRODUCTS	Carbon monoxide and other asphyxiates. Explosives peroxides. Will react with nitric acid to form explosive nitrates.

11 - TOXICOLOGICAL INFORMATION	
POTENTIAL ACUTE HEALTH EFFECTS	Long term toxicological studies have not been conducted for this product
INHALATION	Vapours may irritate throat and respiratory system and cause coughing.
INGESTION	May cause discomfort if swallowed. May cause stomach pain or vomiting.
SKIN CONTACT	Prolonged and frequent contact may cause redness and irritation.
EYE CONTACT	Irritation of eyes and mucous membranes
ACUTE TOXICOLOGICAL DATA	Diethyl ether (LD50): 12.15mg/kg [Rat, Oral], (LC50): 6500 ppm/99min [Mouse, Inhalation] Carbon Dioxide (LCL0): 9000 ppm/9min [Human, inhalation] Gasoline (LC50): 300 000mg/m^3/5 min [Rat, inhalation], (LC50): 300 000 mg/m^3 /5 min [Mouse, inhalation] DME (LC50): 386ppm/30 minutes [Mouse,oral} Dipropylene glycol monomethyl ether (LD50): 5000mg/kg

12 - ECOLOGICAL INFORMATION	
ECOTOXICITY DATA	Diethyl ether (EC50): Daphnia magna 165 mg/L for 24hr, (LC50): Carassius auratus 1.85 g/L for 32.5 – 60.5 min Dipropylene glycol monomethyl ether (LD50): Rabbit dermal 9.5 g/Kg
PERSISTENCE AND DEGRADABILITY	Desmodesmus sunspicatus (green algae), Test type: static test
MOBILITY	Semi – volatile. Readily absorbed into soil
BIOACCUMULATIVE POTENTIAL	No data available

13 - DISPOSAL CONSIDERATIONS	
GENERAL INFORMATION	Residues and spilled material are hazardous waste due to ignitability. Disposal should be made in accordance with federal, state and local regulations.
DISPOSAL METHODS	Dispose of safely in accord with federal, state and local regulations. Do not dump into sewers, on ground, or into a body of water. The preferred disposal options include sending the material to a licensed, permitted recycler, declaimer or incinerator.

14 - TRANSPORT INFORMATION	
LAND TRANSPORTATION	
UN NUMBER	1950
PROPER SHIPPING NAME	Aerosols, flammable (engine starting fluid)
TRANSPORT HAZARD CLASS	Class 2.1
LIMIT QUANTITY	1L
HAZARD CLASS	ORM-D
SPECIAL PROVISIONS	190 327 344 625
TUNNEL RESTRICTION CODE	D
MARINE TRANSPORTATION	
UN NUMBER	1950
PROPER SHIPPING NAME	Aerosols
TRANSPORT HAZARD CLASS	ORM-D
HAZARD LABEL	2
SPECIAL PROVISIONS	63, 190, 277, 327, 344, 959
EMS	F-D, S-U

15 - REGULATORY INFORMATION		
Risk Phases	R11 R66 R65	Highly flammable. Repeated exposure may cause skin dryness or cracking Harmful – may cause lung damage if swallowed.
Safety Phrases	S16	Keep away from source of ignition-no smoking

	S2	Keep out of reach of children
	S9	Keep container in a well-ventilated place
	S13	Keep away from food, drink and animal feeding stuffs
	S37	Wear suitable gloves
	S46	If swallowed, seek medical advice immediately and show this container or label
	S51	Use only in a well-ventilated place

16 - OTHER INFORMATION

This materials safety data sheet has been compiled according to SABS 1104-1 and SABS 0265, and provides the best advice under our current state of knowledge. The user is ultimately responsible for ensuring that the requirements of the relevant legislation are complied with.

DISCLAIMER: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.