MATERIAL SAFETY DATA SHEET

Section 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	:	BIC Lighters
Trade Name	:	N/A
Product Type	:	Thermoplastic casing with liquefied hydrocarbon fuel mixture
CAS Registry Number	:	NA
DOT Shipping Name	:	Lighters
DOT Hazard Class	:	2.1
Transportation UN No.	:	1057

	Hazard Ratings*		Ratings Key
	NPCA/HMIS	NFPA 704	0 = minimal
Health:	1	1	1 = slight
Flammability:	4	4	2 = moderate
Reactivity:	0	0	3 = serious
			4 = severe

Emergency Telephone Number(Non-transportation Issues):
(203) 783-2412
Transportation Emergency Number (CHEMTREC):
(800) 424-9300
General Product Information Telephone Number:
(203) 783-2103
MSDS/Product Safety Information Telephone Number:
(203) 783-2296

Supplier
BIC USA Inc.
500 BIC Drive
Milford, CT 06460
Specific Technical Information provided by manufacturer

MSDS Preparer
SGS Life Science Services
Fairfield, NJ 07004
(973) 244-2435

*See Section 16 for designations of abbreviations used.

Section 2. COMPOSITION/INFORMATION ON INGREDIENTS

The following ingredients in this product are considered to be hazardous as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

	CASRN	TLV - TWA	NIOSH REL TWA
Liquefied Petroleum Gas Mixture (L.P.G.) (Primarily Isobutane)	75-28-5	1000 ppm	800 ppm

Other non-hazardous ingredients:

A. Acetal Polymer
CAS# 25231-38-3
Note: Residual formaldehyde in polymer is less than 50 ppm

B. Polyamide Type 66 Thermoplastics (Nylon)
CAS# 32131-17-2

Section 3. HAZARDS IDENTIFICATION/EMERGENCY OVERVIEW

FLAMMABLE COMMPRESSED GAS

Carcinogen or Potential Carcinogen	NTP:	IARC:	OSHA:
Formaldehyde from burning acetal polymer	Yes	Yes	Yes

Section 4. FIRST AID MEASURES

Skin: Flush with water.
Eye: Rinse with copious amounts of cold water for several minutes.
Ingestion: Do not induce vomiting. Contact a physician immediately.
Inhalation: Remove victim to fresh air; Restore and/or support breathing as needed by mouth-to-mouth resuscitation or oxygen administration as needed. If irritation from exposure persists, seek professional medical attention.

Section 5. FIRE FIGHTING MEASURES

Extinguishing Media: Water spray, dry chemical.
Special Fire-Fighting Procedures or Equipment: Douse with water. Avoid accumulation of unburned material; wear self-contained breathing apparatus; keep personnel removed and upwind.
Hazardous Combustion Products: Isobutane: Carbon monoxide and oxides of nitrogen.
Unusual Fire/Explosion Hazards:

Isobutane:	Flammable vapor, heavier than air: Will greatly expand in volume with change
Acetal Polymer:	in state (from liquid to vapor).
Polyamide (Nylon):	Burns with invisible flame, and may give off formaldehyde vapors. Hazardous gases/vapors produced in fire are ammonia, carbon monoxide, traces of hydrogen cyanide, aldehydes.

Section 6. ACCIDENTAL RELEASE MEASURES

Large spills should be handled by qualified personnel that are equipped with appropriate protective equipment. Small spills – Avoid sources of ignition – ventilate area until material can be disposed of according to current local and state regulations.

Section 7. HANDLING AND STORAGE INFORMATION

Keep in cool, dry, ventilated storage and closed containers. Keep away from heat, sparks, and open flames.

Conditions to Avoid:

A. High heat
B. Sparks
C. Open Flames

Waste Disposal Method:

Common methods. Caution for incineration due to high energy levels of Isobutane fuel and plastic.

Precautions to be taken in handling and storage:

Handling, storage, transportation, and disposal must be in accordance with applicable federal, state, and local regulations.

Other Precautions: None known

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection : None required under normal use and conditions
Ventilation: Local
Protective Gloves: None required under normal use and conditions
Eye Protection: None required under normal use and conditions
Other Protective Clothing or Equipment: None required under normal use and conditions
Working/Hygienic Practices: Standard good industrial work ad hygienic practices are recommended.

Section 9. PHYSICAL/CHEMICAL PROPERTIES

Appearance:	Isobutane (A-31) – Clear colorless liquefied gas Acetal Polymer– Solid plastics material
Odor:	Isobutane (A-31) – Sweet petroleum odor Acetal Polymer– Trace amounts of formaldehyde odors may be detected
Solubility (Water):	Isobutane (A-31) – Very slightly soluble Acetal Polymer – Insoluble Nylon Thermoplastics – Insoluble
Boiling Point, Degrees F:	Isobutane (A-31) (deg. F.) – 10.9
Vapor Pressure:	Isobutane (A-31) (PSIG)– 31 at 70°F
Vapor Density (Air=1):	Isobutane (A-31) – 2.006
Specific Gravity (H_20=1):	Isobutane (A-31) – 0.564
Evaporation Rate (Ethyl ether=1)	Isobutane (A-31) – > 1
Flash Point (Method Used):	-117 Degrees F (Open Cup) for Isobutane
Flammable Limits in Air (% by Volume):	LEL: 1.8 UEL: 8.4 for Isobutane

Section 10. STABILITY/REACTIVITY

This product is stable and is not reactive under normal conditions of use. See Section 7 for conditions to avoid.
Materials to avoid: Isobutane fuel reacts vigorously with oxidizing materials.
Hazardous Decomposition Products: Isobutane – Carbon monoxide, volatile hydrocarbon vapors. Avoid inhalation of burning plastic parts.
Hazardous Polymerization Products: Will not occur.

Section 11. TOXICOLOGICAL INFORMATION

Health Hazard (Acute or Chronic):

Skin: Excessive exposure to liquid fuel may cause irritation or frostbite.
Eyes: Exposure to liquid fuel may cause irritation or damage to sight.
Ingestion: Aspiration hazard.
Inhalation:

Isobutane: May cause asphyxiation (by displacing air) and slight narcosis. Inhaled vapors at high concentration may cause adverse effects to the Central Nervous System (CNS).
Formaldehyde: (from burning plastics) May cause irritation to the respiratory tract and/or eyes. Headaches and nausea.

Effects of Overexposure: See information in Sections 2, 4, 10 & 11

Medical Conditions Generally Aggravated by Exposure:

Pre-existing lung diseases may have increased susceptibility to potential toxicity of formaldehyde.

Section 12. ECOLOGICAL INFORMATION

Not known. This material is not expected to cause any significant adverse effects on the environment when it is used as intended and/or properly disposed of.

Section 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal regulations.

Section 14. TRANSPORATION INFORMATION

This product is regulated by the Department of Transportation (DOT) as hazardous (49 CFR 172.101).
DOT Shipping Name – Lighters
DOT Hazard Class – 2 .1
Transportation UN NO. 1057

Section 15. REGULATORY INFORMATION

1. The components in this product are listed on the TSCA inventory or are otherwise exempt from TSCA.
2. Some plastics in this product may form formaldehyde gases during their combustion. Formaldehyde is considered a carcinogen by the state of California (California Proposition 65) if exposure to it exceeds the No Significant Risk Level (NSRL)-Safe Harbor Level (40 micrograms/day).
3. ASTM F400-92 (Standard Consumer Safety Specification for Lighters)
4. ISO 9994 (Lighters – Safety Specification)
5. Canadian Hazardous Products (Lighters) Regulations, SOR/89-517, P.C. 1989-2151; Amended by SOR/91-261, P.C. 1991-642; SOR/95-252; P.C. 1995-827 (Revised 15 June, 1995).
6. U.S. Safety Standard for Cigarette Lighters, 16 CFR Part 1210 (July 12, 1994).

Section 16. OTHER INFORMATION

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Abbreviations used in this MSDS not fully described in the text:

CASRN:	Chemical Abstracts Service Registration Number
IARC:	International Agency for Research on Cancer
NFPA	National Fire Protection Association
NPCA/HMIS:	National Paint and Coatings Association's Hazardous Materials Information System
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
TSCA:	Toxic Substance Control Act
RCRA:	Resource Conservation and Recovery Act
SARA:	Superfund Amendments and Reauthorization Act