



SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: Steel Shield FUEL SHIELD Fuel Additive

Synonyms: *Fuel Shield*

Other means of identification: FS

Recommended use of the chemical and restrictions on use: For all gas and diesel engine's fuel

Manufacturer Details:

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2. HAZARDS IDENTIFICATION

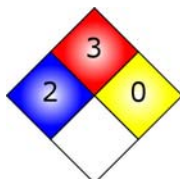
OSHA Hazards:

Flammable liquid, Target Organ Effect, Irritant

Target Organs:

Cardiovascular system, Gastrointestinal tract, Kidney, Liver, Nerves

NFPA



GHS label elements, including precautionary statements



Signal Word:

DANGER!

Hazard statement(s)

H225

H319

H336

Precautionary statement(s)

P261

P312

Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Avoid breathing dust/fumes/gas/mist/vapors.
Call a POISON CENTER or doctor/ physician
if you feel unwell.

P337 + P313 P305 + P351 + P338 IF IN EYES:	If eye irritation persists: Get medical attention. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P304 + P340 IF INHALED:	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair):	Remove immediately all contaminated clothing. Rinse skin with water.
P370 + P378 In case of fire:	Use dry sand, dry chemical or alcohol resistant foam for extinction.
P210	Keep away from heat, sparks, open flames, and hot surfaces. No Smoking.
P233	Keep container tightly closed.
P102	Keep out of reach of children.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P235	Keep cool.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash hands thoroughly after handling.

GHS Classification(s)

Eye irritation (Category 2)
 Flammable Liquids (Category 2)
 Specific target organ toxicity - single exposure (Category 3)

Potential Health Effects: Organ Description

Eyes Causes eye irritation.
 Ingestion May be harmful if swallowed.
 Inhalation May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
 Skin May be harmful if absorbed through skin. Causes skin irritation.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity: Contains Isopropyl Alcohol, Naphtha, Synthetic Hydrocarbons
Common name / Synonym: Isopropanol; Isopropyl Alcohol; 2-Propanol; CAS #: 67-63-0, Mineral Spirits CAS Number 68551-17-7, Synthetic Hydrocarbon blend, no CAS#

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
 Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep

unopened containers cool by spraying with water.

Flammable Properties

Classification

OSHA/NFPA Class IB Flammable Liquid.

Flash point

12°C (53°F) - Closed Cup

Autoignition temperature

399°C (750°F)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel

to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into

a convenient waste disposal container. Keep container closed.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take

measures to prevent the buildup of electrostatic charge.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be

carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component Source	Type	Value
Isopropyl Alcohol	US (ACGIH)	TWA 200 ppm
Isopropyl Alcohol	US(ACGIH)	STEL 400 ppm
Isopropyl Alcohol	US (OSHA)	TWA 400 ppm

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (*physical state, color, etc.*) Liquid. Light Amber.

Initial boiling point and boiling range 83°C (181°F)

Flash point 12°C (53°F) - Closed Cup

Upper / Lower flammability or explosive limits 2.0% (V) / 12.7% (V)

Vapor Density 2.1

Relative Density 0.785 g/cm³ at 25°C (77°F)

Auto-ignition temperature 399°C (750°F)

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended storage conditions.

Possibility of hazardous reactions Vapors may form explosive mixture with air.

Conditions to avoid (e.g., static discharge, shock or vibration)

Heat, flames, and sparks. Extreme temperatures and direct sunlight.

Incompatible materials Strong Oxidizing agents

Hazardous decomposition products Hazardous decomposition products formed under fire conditions. -Carbon oxides, Hydrocarbon compounds (incomplete combustion), Carbon Monoxide

11. TOXICOLOGICAL INFORMATION

Product Summary:

Long-term exposure (2 years) to Isopropyl Alcohol via inhalation at concentrations up to 5000 ppm caused no exposure related increases in tumors in animals. This substance is not classified for carcinogenicity by IARC, OSHA, NTP, or the EPA.

Acute Toxicity:

LC50 (vapor) Rat 19,000 ppm 8 hours

LD50 (oral) Rat 4,396 mg/kg

LD50 (oral) Mouse 3,600 mg/kg

LD50 (skin) Rabbit 12,870 mg/kg

Irritation:

Eyes (ISOPROPANOL, NAPHTHA)

Mildly irritating to the eye at an airborne concentration of 400 ppm, unpleasant at 800 ppm.

Skin

Slightly irritating to the skin. Repeated contact with neat product may dry the skin causing cracking and/or fissuring.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Other Hazards : Organ Description

Eyes Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury

Ingestion Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. The probable oral lethal dose in humans is 240 ml (2696 mg/kg), but ingestion of only 20 ml (224 mg/kg) has caused poisoning.

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness. May cause irritation with pain and stinging, especially if the skin is abraded. The chemicals have a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin. Dermal absorption has been considered toxicologically insignificant.

Chronic Prolonged exposure can be irritating to mucosal membranes, skin, respiratory system. Can cause liver and kidney damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial, where available):

Acute Fish Toxicity

LC50 / 96 hours Pimephales promelas: 9,640 mg/L

Toxicity to Aquatic Plants

EC50 / 72 hours Scenedesmus subspicatus > 1,000 mg/L

Toxicity to Microorganisms

EC50 / 3 hours Activated sludge > 1,000 mg/L

Persistence and degradability:

Moderately biodegradable (77% degraded in 10 days). Expected to be hydrolytically stable, but rapidly degraded following atmospheric releases.

Bioaccumulative potential:

Bioconcentration factor (BCF) of 3.16. (Predicted bioconcentration factor). Significant bioaccumulation is not expected based on predicted BCF of 3.16.

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number UN1219

UN proper shipping name Isopropanol

Transport hazard class(es) 3

Packing group (if applicable) II

IMDG

UN-Number: UN1219 Class: 3 Packing Group: II EMS-No: F-E, S-D

Proper shipping name: ISOPROPANOL

Marine pollutant: No

IATA

UN-Number: UN1219 Class: 3 Packing Group: II

Proper shipping name: UN Isopropanol

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards

Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

Country Notification

Australia AICS

Canada DSL

China IECS

European Union EINECS

Japan ENCS/ISHL

Korea ECL

New Zealand NZIoC

Philippines PICCS

United States of America TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: The following components are subject to reporting levels established by SARA title III, Section 313: ISOPROPYL ALCOHOL (CAS# 67-63-0) Revision date: 1987-01-01.

SARA 311/312 Hazards : Acute Health Hazard

Chronic Health Hazard

Fire Hazard

CERCLA

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA

Massachusetts Right To Know Components

Isopropyl Alcohol CAS-No. 67-63-0 Revision Date 1987-01-01

Pennsylvania Right To Know Components

Isopropyl Alcohol CAS-No. 67-63-0 Revision Date 1987-01-01

New Jersey Right To Know Components

Isopropyl Alcohol CAS-No. 67-63-0 Revision Date 1987-01-01

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION:
INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE
SDS**

Disclaimer

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