
SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Identifiers

Product name: Fuel-Save

Product Application: Anti-bacterial / Stabilizer for Fuel oils & Diesel fuel

Emergency telephone number: CHEMTREC (800) 424-9300 Poison Control: 1-800-222-1222

SECTION 2 – HAZARD IDENTIFICATION Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Signal Word: DANGER

Pictograms: Exclamation Mark, Corrosive

Physical Hazards: May be corrosive to metals.

Health Hazards:

SKIN CORROSION/IRRITATION - Category 1B

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

SKIN SENSITIZATION - Category 1

Hazard statements: Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary statements

Prevention:

Wear protective gloves. Wear eye or face protection. Wear protective clothing. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response:

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician.

IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF

ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Immediately call a POISON CENTER or physician.

Storage:

Store locked up.

Disposal:

Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified:

None known.

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.4%



SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient	CAS	Wt%
Magnesium Nitrate	10377-60-3	1.856 - 2.436
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	1.16 - 1.392
2-Methyl-4-isothiazolin-3-one	2682-20-4	0.348 - 0.58
Nitric acid, copper(2+) salt (2:1)	3251-23-8	0.212

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

While some substances are claimed as trade secret in accordance with the provision of OSHA 29 CFR 1910.1200(i), all known hazards are clearly communicated within this document.

Per Appendix D 1919.1200 OSHA, ranges can be used when there is batch-to-batch variability in a mixture or a trade secret claim.

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Notes to physician:

Probable mucosal damage may contraindicate the use of gastric lavage.

Ingestion

- Call poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water, if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

Eye contact

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for further treatment advice.

Skin contact

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

Inhalation

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.

SECTION 5 – FIREFIGHTING MEASURES

Flammable Properties: Non-Flammable
Explosive Properties: N/A
Suitable Extinguishing media: N/A
Unsuitable extinguishing media: N/A

Special hazards arising from the substance or mixture: Overheating in fire conditions may produce POISONOUS GASES. Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, halogenated compounds, metal oxides.

In a fire or if heated, a pressure increase will occur and the container may burst. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Advice for firefighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information: If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up:

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Other Information:

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of aerosols. Provide appropriate exhaust ventilation. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Protective Measures: Put on appropriate personal protective equipment (see Section 8). Persons with a

history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Suitable storage/usage materials:	304 Stainless steel	316 Stainless steel	PVC – flexible
Polyethylene - low density	Polyethylene – crosslink	Polyethylene - high density	PVC – rigid
Polypropylene	Rehau Tubing	EPDM rubber	Butyl rubber
ABS (Plastic)	Teflon	Tygon F-4040	Tygon tubing
R3603	Polyurethane Tubing	Pharmed Tubing	FRP
Norprene	Dow Silastic Tube	Polycarbonate	Polystyrene

NOTE: With respect to all other materials not listed above, user should be aware that use of such materials with this product may be hazardous and result in damages to such materials and other property and personal injuries. No data concerning such materials not listed above should be implied by the user.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters: None.

Exposure controls

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/ or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Wash hands after glove removal, before breaks and at the end of workday. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Green to pale yellow liquid with pungent organic odor
pH:	2.5—5.0
Specific Gravity:	1.020 (8.5 lb/gal)
Molecular Weight:	Mixture
Water Solubility:	Complete
Melt/Freeze Point:	26.6 F / -3.0 C
Boiling Point:	212 F / 100 C
Flammability:	Not Flammable
Flash Point:	N/A
Vapor Density:	NA
Note:	Physical Data is typical values based on material tested, but may vary based on composition. Values should not be accepted as guaranteed for every lot or as specifications for this product.

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under normal conditions of use and storage
Possibility of hazardous reactions:	No data available
Conditions to avoid:	None known
Incompatible materials:	Strong acids and oxidizers.
Hazardous decomposition products:	None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Nitric acid, copper(2+) salt (2:1)	LD50 Oral	Rat	794 mg/kg	Not stated
KTND	LC50 Inhalation Gas	Female	1.5 mg/l	4 hours
	LC50 Inhalation Gas	Male	1.4 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	Not stated
	LD50 Oral	Rat	3810 mg/kg	Not stated

Irritation/Corrosion

Nitric acid, copper(2+) salt (2:1)	Eyes - Severe irritant	Rabbit	100mg	4 Seconds
	Skin - Severe irritant	Rabbit	500 mg	Not stated
KTND	Eyes - Severe irritant	Rabbit	Not stated	Not stated
	Skin - Severe irritant	Rat	Not stated	Not stated

Sensitization

5-Chloro-2-methyl-4-isothiazolin-3-one	Skin	Guinea Pig	Sensitizing
2-Methyl-4-isothiazolin-3-one	Skin	Guinea Pig	Sensitizing

Classification

Product/ingredient name	OSHA	IARC	NTP
Magnesium Nitrate	-	2A	-
Nitric acid, copper(2+)salt(2:1)	-	2A	-

Carcinogenicity This product has not been tested unless noted in summary results.

Mutagenicity Not available.

Teratogenicity Not available.

Reproductive toxicity Not available.

Aspiration hazard Not available.

Specific target organ toxicity (single exposure) Not available.

Specific target organ toxicity (repeated exposure) Not available.

Information on the likely routes of exposure:

Routes of entry anticipated: Dermal, Inhalation

Routes of entry not anticipated: Oral

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Skin contact: Adverse symptoms may include the following:

Pain or irritation, redness, blistering may occur

Ingestion: Adverse symptoms may include the following: Stomach pains

Inhalation: No specific data

Eye contact: Adverse symptoms may include the following: Pain, watering, redness

Immediate / delayed / chronic effects from short and long term exposure:

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects: Not available.

Potential delayed effects : Not available.

Potential chronic health effects: Not available.

Conclusion/Summary : The following tests were conducted with the technical grade active ingredient(s):

Ames Salmonella Assay: Positive (T100) without activation; Negative with activation

Mouse Lymphoma Forward Mutation Assay: Positive

Rat Bone Marrow Cytogenetics Assay: Negative, no chromosomal damage

In Vivo Micronucleus Assay in Mice: Negative

Sex-Linked Recessive Lethal Assay: Negative

Teratology:

Rabbits: Dose levels used were 1.5, 4.4 and 13.3 mg/kg/day. Dose related maternal toxicity was observed. No evidence of a teratogenic response, but evidence of embryotoxicity and fetotoxicity was noted.

Rats: Maternal toxicity was observed at all dose levels. No evidence of a teratogenic response at doses up to 100 mg/kg/day (highest dose tested).

90 Day Sub-chronic Toxicity:

Rats – Oral: There was a dose related increase in adrenal weights in the females. A slight, but significant increase in SGOT was noted in the high dose (800 ppm) males. No other changes were noted.

Dogs – Oral: No treatment related effects were noted at doses up to 1500 ppm (highest dose tested).

Rabbits – Dermal: Dose levels of 100, 200 and 400 ppm active (1 ml/kg) produced dose dependent signs of dermal irritation. No treatment related signs of systemic toxicity, or changes in clinical chemistry parameters, or histopathological evaluation.

Rats – Inhalation: Exposed to levels of product at 0, 0.34, 1.15 and 2/64 mg active per cubic meter.

There were no treatment related changes in hematology, gross pathology or ophthalmology. Decrease weight gains were noted in the high dose group. Histopathologic effects related to irritation/rhinitis of the nasal cavity was noted in the mid and high dose groups. No treatment related effects were noted in the low dose group.

Metabolism:

Rats – Oral: After a dosage of 2.5 mg/kg/day given for 7 days, 90% of the administered C14 was excreted in 3 days; <2% as parent compound.

Rats – Dermal: After a dosage of 0.2 - 1.6 mg/kg, 60% of the administered C14 remained at the site of administration on the skin; whereas, 20-40% was absorbed systemically. The C14 was excreted in urine.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Did not cause cancer in laboratory animals.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates: Not available.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Product/ingredient name	Result	Species	Exposure
KTND	Acute LC50 0.16 mg/l	Daphnia	48 hours
	Acute LC50 0.19 mg/l	Fish	96 hours
	Acute LC50 0.28 mg/l	Fish	96 hours
	Acute LC50 0.3 mg/l	Fish	96 hours
	Acute LC50 0.55 mg/l	Fish	96 hours
	Acute LC50 1.9 mg/l	Fish	96 hours

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available. Product is water soluble, so will likely move within the aquifer.

Other adverse effects: Harmful to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods :

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification : D002, 100 lbs.

SECTION 14 – TRANSPORT INFORMATION (USDOT)

Proper shipping Name: Corrosive Liquid, Acidic, Organic, N.O.S. (Contains (5-Chloro-2-methyl-4-isothiazolin-3-one, 2-Methyl-4-isothiazolin-3-one)

RQ for copper dinitrate

Hazard Class: Corrosive (8)

UN/ID No UN3265

Packing Group II

Reportable Quantity (RQ) 47,170 lbs.

Description: N/A

Remarks: Marine Pollutant placard required by IMDG (but not USDOT) when transported



in containers greater than 5 Liters in size.
 Emergency Response Guide Number 153

SECTION 15 – REGULATORY INFORMATION

Potential impurities present in trace quantities are included in the regulatory listings of this section.

U.S. Federal regulations:

TSCA 12(b) one-time export: 5-chloro-2-methyl-2H-isothiazolin-3-one

United States inventory (TSCA 8b): This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from US Toxic Substances Control Act (TSCA) Inventory listing requirements.

Clean Water Act (CWA) 307: copper dinitrate

Clean Water Act (CWA) 311: copper dinitrate; nitric acid

SARA 302/304:
Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Nitric acid	0.02	Yes	1000	85.7	1000	85.7

SARA 304 RQ : 5,000,000 lbs / 2,270,000 kg [587,912.3 gal / 2,225,490.2 L]

SARA 311/312 Classification: Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden Release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Magnesium Nitrate	1.856 - 2.436	No	No.	No	No	Yes
5-Chloro-2-methyl-4-isothiazolin-3-one	1.16 - 1.392	No	No.	No	Yes	No
2-Methyl-4-isothiazolin-3-one	0.348 - 0.58	No	No.	No	Yes	No
Nitric acid, copper(2+) salt (2:1)	0.212	No	No	No	Yes	Yes

SARA 313
Form R – Reporting requirements
Supplier notification

Name	CAS number	%
Magnesium Nitrate	10377-60-3	1.856 - 2.436
Magnesium Nitrate	10377-60-3	1.856 - 2.436

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

CERCLA : Hazardous substances.: nitric acid; copper dinitrate: 100 lbs. (45.4 kg)

FDA : This product is allowed under the following FDA (21 CFR) sections :

175.105 - Limitation: For use only as an antimicrobial agent in polymer latex emulsions.

175.300, 175.320 - Limitation: For use only as an antimicrobial agent in emulsion-based silicon coatings at a level not to exceed 50 mg active ingredient/Kg in the coating formulation.

176.170, 176.180 - Limitations: For use only 1) as an antimicrobial agent for polymer latex emulsions in paper coatings at a level not to exceed 50 ppm active ingredient in the coating formulation and 2) as an antimicrobial agent for finished coatings and for additives used in the manufacture of paper and paperboard including fillers, binders, pigment slurries, and sizing solutions at a level not to exceed 25 ppm active ingredient in the coating formulations and additives.

176.300 - Limitation: Not to exceed 2.5 pounds per ton of dry weight fiber

BfR (Bundesinstitut für Risikobewertung): XIV, XXXVI, XXXVI/1

EPA Registration. Number: 1448-348

FIFRA: This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of nonpesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

DANGER: Corrosive. Causes eye damage and skin burns. May cause allergic skin reaction. Harmful if inhaled. Harmful if swallowed. Do not get in eyes, on skin, on clothing. Mixers, loaders and others exposed to this product must wear: long-sleeved shirt and long pants; chemical resistant gloves such as nitrile or butyl rubber; shoes plus socks; goggles and face shield; and chemical resistant apron. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exists use detergent and hot water. Keep and wash PPE separately from other laundry. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly. This product may cause skin sensitization reactions in some people.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish and wildlife. Do not discharge effluent containing this product into lakes streams, ponds, estuaries, oceans, or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste. Apply this pesticide only as specified on the label.

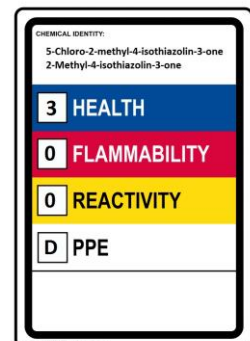
SECTION 16 – OTHER INFORMATION

Fire Protection Association (NFPA) Rating:



HMIS Rating:

NSF Certification: N/A



This Safety Data Sheet compiled from information provided by the raw chemical product manufacturers.

Disclaimer: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, from failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.