

SAFETY DATA SHEET



STEOL® CS-460

Version
1.1

Revision Date:
10/31/2024

Date of last issue: 11/01/2023
Date of first issue: 11/01/2023

SECTION 1. IDENTIFICATION

Product name : STEOL® CS-460

Product code : 1050760

Manufacturer or supplier's details

Company name of supplier : STEPAN US

Address : 1101 Skokie Blvd, Suite 500
Northbrook IL 60062

Telephone : (847) 446-7500

Emergency telephone Medical 1-800-228-5635 (Available 24 hours a day.
SDS/Product information may not be
available for the emergency service.)
Chemtrec 1-800-424-9300
Chemtrec Int'l 1-703-527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Surfactant

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids : Category 3

Skin irritation : Category 2

Serious eye damage : Category 1

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :



Signal Word : Danger

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Hazard Statements : H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
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/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305 + P351 + P338 + P310 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/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P321 Specific treatment (see supplemental first aid instructions on this label).
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
Sodium lauryl ether sulfate	9004-82-4	58 - 61
Ethanol	64-17-5	13 - 16
Alcohols, C12-15, ethoxylated	68131-39-5	0 - 3

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SECTION 4. FIRST AID MEASURES

- | | | |
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| General advice | : | Immediate medical attention is required.
Show this material safety data sheet to the doctor in attendance. |
| If inhaled | : | Remove person to fresh air. If signs/symptoms continue, get medical attention. |
| In case of skin contact | : | Remove contaminated clothing and shoes.
Wash off with soap and water.
Get medical attention if irritation develops and persists.
Wash contaminated clothing before reuse. |
| In case of eye contact | : | In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Continue rinsing.
Get medical attention immediately. |
| If swallowed | : | Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell. |
| Most important symptoms and effects, both acute and delayed | : | Causes skin irritation.
Causes serious eye damage. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|--|---|---|
| Suitable extinguishing media | : | Carbon dioxide, dry powder, foam.
Fog |
| Unsuitable extinguishing media | : | Water spray jet |
| Specific hazards during fire fighting | : | Flammable liquid. vapours are heavier than air and may travel to a source of ignition and flash back. Closed containers may rupture violently when heated.
May form explosive mixtures in air. |
| Further information | : | In the event of fire and/or explosion do not breathe fumes.
In the event of fire, cool tanks with water spray. |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
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| Personal precautions, protec- | : | Keep people away from and upwind of spill/leak. |
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tive equipment and emergency procedures		Use clean non-sparking tools to collect absorbed material. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions	:	Local authorities should be advised if significant spillages cannot be contained. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Non-sparking tools should be used. 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 (see section 13). Clean thoroughly. After cleaning, flush away traces with water. Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.
Advice on protection against fire and explosion	:	Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Vapors may form explosive mixtures with air. Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight. No sparking tools should be used. No smoking. Normal measures for preventive fire protection.
Advice on safe handling	:	Wear personal protective equipment. For personal protection see section 8. Provide sufficient air exchange and/or exhaust in work rooms. As a rule, at least 10 air changes per hour are recommended at the workplace. Handle and open container with care. Keep container closed when not in use. Do not get in eyes or mouth or on skin. Do not swallow. Do not breathe dust, fume, gas, mist, vapors or spray. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment.

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Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.

Do not use sparking tools.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

- Conditions for safe storage : Keep in properly labeled containers.
Store in original container.
Keep tightly closed.
Store locked up.
Keep cool. Protect from sunlight.
Keep away from sources of ignition - No smoking.
Keep in an area equipped with sprinklers.
Take measures to prevent the build up of electrostatic charge.
- Materials to avoid : Store away from incompatible materials (see Section 10 of the SDS).
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m ³	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m ³	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m ³	OSHA P0

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection

Remarks : Protective gloves The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear safety glasses with side shields or goggles.
Face-shield

Skin and body protection : Lightweight protective clothing
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

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Protective measures : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Hygiene measures : Do not taste or swallow.
General industrial hygiene practice.
Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : light yellow

Odor : alcohol-like

pH : 7.5 - 9 (77 °F / 25 °C)
Concentration: 100 g/l

Melting point/freezing point : 25.00 °F / -3.89 °C

Pour point : 30.00 °F / -1.11 °C

Boiling point/boiling range : 190.00 °F / 87.78 °C

Flash point : 78.1 °F / 25.6 °C
Method: Pensky-Martens closed cup

Relative density : 1.02 - 1.04 (77 °F / 25 °C)

Viscosity
Viscosity, dynamic : 55 mPa.s (77 °F / 25 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.

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Conditions to avoid	:	Temperatures greater than recommended storage temperature. Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 - 5,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Result	:	Skin irritation
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Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Result	:	Corrosive
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Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Result	:	Does not cause skin sensitization.
Result	:	Does not cause respiratory sensitization.

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity - Assessment	:	Contains no ingredient listed as a mutagen
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Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC

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

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

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

Reproductive toxicity

Not classified based on available information.

Product:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT-single exposure

Not classified based on available information.

Product:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

Not classified based on available information.

Product:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Remarks : No data available

Aspiration toxicity

Not classified based on available information.

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

- Toxicity to fish : LC50 (Fish): 2.3 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (calculated) (Daphnia): , >13 parts per million
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (calculated) (algae): >56 parts per million
Exposure time: 72 h

Ecotoxicology Assessment

- Acute aquatic toxicity : Toxic to aquatic life.
- Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Persistence and degradability

Product:

- Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

- Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : Dispose of contents/ container to an approved waste disposal plant.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
- The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

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SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1170
Proper shipping name : ETHANOL SOLUTION
Class : 3
Packing group : III
Labels : 3
Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 1170
Proper shipping name : Ethanol solution
Class : 3
Packing group : III
Labels : Flammable Liquids
Packing instruction (cargo : 366
aircraft)
Packing instruction (passen- : 355
ger aircraft)

IMDG-Code

UN number : UN 1170
Proper shipping name : ETHANOL SOLUTION

Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-D
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 1170
Proper shipping name : Ethanol solutions

Class : 3
Packing group : III
Labels : FLAMMABLE LIQUID
ERG Code : 127
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Ethanol	64-17-5	>= 10 - < 20 %
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Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

California Prop. 65

WARNING: This product can expose you to chemicals including 1,4-dioxane, ethylene oxide, which is/are known to the State of California to cause cancer, and ethylene oxide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Permissible Exposure Limits for Chemical Contaminants

Ethanol	64-17-5
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The ingredients of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory

AIIC : On the inventory, or in compliance with the inventory

DSL : On the inventory, or in compliance with the inventory

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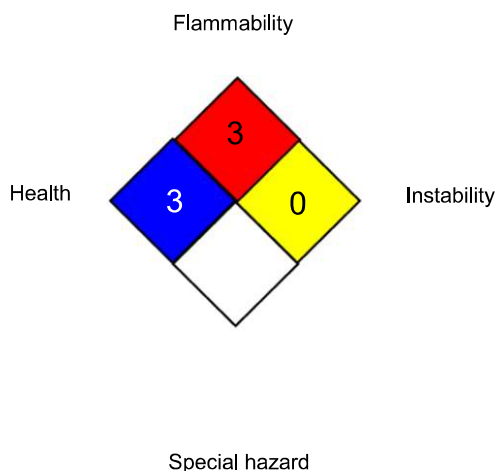
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IECSC	:	All components are listed on the inventory, regulatory obligations/restrictions apply
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	Not in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	3
FLAMMABILITY		3
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

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