

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product Identifier**

Product Name : Steel Seal (also known as Steel Seal Head Gasket Fix)
Product Code : SSUS, SSUS16, SSUS32
UFI Number : T56F-A198-K00K-AVQQ

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use : Additive for the repair of head gaskets

1.3 Details of the supplier of the safety data sheet**Manufacturer (United Kingdom)**

Steel Seal Ltd
Weston Road
Bretforton, Evesham
Worcestershire
WR11 7QA
United Kingdom

Importer (United States)

Automotive Brands Inc.
203 NE Front Street
Suite 101
Milford, Kent County DE
19963

Tel. : 01789 330 668
Email (for SDSs) : info@steelseal.co.uk

Tel. : (855) 771 1972
Email (for SDSs) : info@steelseal.com

1.4 Emergency tel. no.: (855) 771 1972 (Available 9am-5pm)

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Physical and Chemical Hazard	Not classified
Human health	H319: Eye Irrit. 2 Serious eye damage/irritation Category 2 H315: Skin Irrit.2; Skin corrosion/irritation Category 2 H302: Acute Tox.4 Acute toxicity, oral, Category 4 H373 STOT RE 2 Specific target organ toxicity, repeated exposure, Category 2
Environment	Not classified

2.2 Label elements

Signal word: Warning **Contains:** Silicic acid, sodium salt; Silicic acid, potassium salt; Ethylene Glycol

Hazard Pictogram(s):

Hazard Statements:	H302	Harmful if swallowed
	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
	H373	May cause damage to organs Kidneys through prolonged or repeated exposure if swallowed.
Precautionary Statements:	P262	Do not get in eyes, on skin, or on clothing.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P281	Use personal protective equipment as required.

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P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with local regulations.

2.3 Other hazards

Not classified as PBT or vPvB

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures:

Hazardous components

Ingredient	CAS Number / EINECS Number / Index Number	REACH Registration Number	Classification according to Regulation 1272/2008	SCL / M-Factor / ATE	Content (W/W)
Silicic Acid, Sodium Salt	1344-09-8 215-687-4	01-2119448725-31-xxxx	H319: Eye Irrit. 2 H315: Skin Irrit.2; H335: STOT SE 3	-	10-20%
Silicic Acid, Potassium Salt	1312-76-1 215-199-1	01-2119456888-17-xxxx	H319: Eye Irrit. 2 H315: Skin Irrit.2; H335: STOT SE 3	-	6-10%
Ethylene Glycol	107-21-1 203-473-3 603-027-00-1	01-2119456816-28-xxxx	H302: Acute Tox.4 H373 STOT RE 2	-	8-12%
Sodium (trihydroxysilyl) Propylmethylphosphonate	84962-98-1 284-799-3		H319: Eye Irrit	-	0.3-0.8%

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

See Section 16 for the full text of the H-statements noted above.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Skin contact: Wash affected skin with plenty of water. If symptoms develop, obtain medical attention.

Eye contact: Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

Ingestion: Do not induce vomiting. Wash out mouth with water and give 200-300ml (half a pint) of water to drink. Obtain medical attention.

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Inhalation: Remove patient from exposure, keep warm and at rest. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

Alkaline - Irritating to eyes and skin. The toxicity of potassium silicate is dependent on the silica to alkali ratio and on the pH.

4.3 Indication of any immediate medical attention and special treatment needed:

Obtain immediate medical attention.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Compatible with all standard firefighting techniques.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Not applicable. Aqueous solution. Non-combustible.

5.3 Advice for fire-fighters:

No further information available.

Special protective equipment for firefighters:

No further information available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing. Wear eye/face protection. (See protective measures under point 7 and 8).

6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

6.3 Methods and materials for containment and cleaning up

Caution-spillages may be slippery. Contain spillages with sand, earth or any suitable absorbent material. Transfer to container for disposal or recovery.

6.4 References to other sections

See protective measures for handling and personal protection under sections 7 and 8. See disposal measures under section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing. Avoid generation of mist. Provide adequate ventilation. Emergency shower and eyewash should be readily available. See Also Section 8.

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7.2 Conditions for safe storage, including any incompatibilities

Keep at room temperature not exceeding (50oC) Do not allow material to freeze. Provide an adequate bund wall. Unsuitable containers: Aluminium See section 10

7.3 Specific end use(s)

The identified uses for this product are detailed in Section 1.2. See Annex to the extended Safety Data Sheet if available for further information.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits

Component Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethylene Glycol (CAS: 107-21-1)	STEL: 50 ppm vapor fraction STEL: 10 mg/m3 Inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m3	-

Consult local authorities for appropriate values

8.2 Exposure controls

Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the workplace.

Personal protection



Eye/face protection: Chemical goggles. Refer to 29 CFR 1910.133.

Skin & Hand Protection: Wear suitable protective clothing and gloves. Plastic or rubber gloves. Wear suitable overalls. Refer to 29 CFR 1910.138.

Respiratory protection: Respiratory protection not normally required. Advice on respiratory protective equipment is given 29 CFR 1910.134.

Hygiene measures: No further information.

Appropriate engineering controls: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Environmental exposure controls: The primary hazard of potassium silicate is the alkalinity. Avoid release to the environment.

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9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance (Physical state)	Liquid
Color	Green, almost transparent
Odor	Odorless
Odor threshold	No data available
Melting point/freezing point	No data available
Boiling point/range	100°C
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	Not determined
Lower/Upper explosion limit	No data available
Flash point	No data available
Evaporation rate	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH (Conc solution)	Alkaline 11.2
Kinematic viscosity	No data available
Solubility	Soluble in water.
Partition coefficient: n-octanol/water	Not applicable for mixtures
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Particle characteristics	Not applicable

9.2 Other information:

VOC Content	No data available
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10. STABILITY AND REACTIVITY

10.1 Reactivity	See section 10.3.
10.2 Chemical stability	Stable.
10.3 Possibility of hazardous reactions	When arc welding vessels containing aqueous solutions of this material, take care to control any explosion risk from hydrogen evolved by electrolysis. Aqueous solutions will react with aluminium, zinc, tin, and their alloys evolving hydrogen gas which can form an explosive mixture with air. Can react violently if in contact with acids. Can react with sugar residue to form carbon monoxide.
10.4 Conditions to avoid	See section 10.3.
10.5 Incompatible materials	See section 10.3.
10.6 Hazardous decomposition products	None known.

11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

All symptoms of acute toxicity are due to high alkalinity. Material causes irritation. Oral LD50 (rat) >5000 mg/kg bw.

Acute inhalation toxicity

Mist is irritation to the respiratory tract. All symptoms of acute toxicity are due to high alkalinity. Inhalation LC50 (rat) >2.06 g/m³.

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Acute dermal toxicity

Skin contact- Repeated and/or prolonged skin contact may cause slight irritation. Dermal LD50 (rat) >5000mg/kg bw

Skin corrosion/irritation: Repeated or prolonged skin contact may cause slight irritation.

Serious eye damage/irritation: Liquid or mist may cause discomfort and mild irritation.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met

Repeated dose toxicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Mutagenicity: Based on available data, the classification criteria are not met.

Toxicity for reproduction: Based on available data, the classification criteria are not met.

STOT – single exposure: Based on available data, the classification criteria are not met.

STOT – repeated exposure: NOAEL oral (rat) 159mg/kg bw/d.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2 Information on other hazards No further information available.

Endocrine disrupting properties No ingredients have been identified as having endocrine disrupting properties.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1 Toxicity

Aquatic toxicity
Fish (*Leuciscus idus*) LC50 (48 hour) >146 mg/l Aquatic invertebrates:
(*Daphnia magna*) EC50 (24 hour) >146 mg/l

12.2 Persistence and degradability

Inorganic. Soluble silicates, upon dilution, rapidly depolymerise into molecular species indistinguishable from natural dissolved silica.

12.3 Bioaccumulative potential

Inorganic. The substance has no potential for bioaccumulation.

12.4 Mobility in soil

Not applicable.

12.5 Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

The alkalinity of this material will have a local effect on ecosystems sensitive to changes in pH

Persistent Organic Pollutant

No information available.

Ozone Depletion Potential

Not applicable.

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13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Discharge of this product to sewage treatment works is dependent on local regulations with regard to pH controls. Dispose of this material and its containers to hazardous or special waste collection point. Disposal should be in accordance with local, state or national legislation.

14. TRANSPORT INFORMATION

General Information: The product is not covered by international regulation on the transport of dangerous goods (DOT, IMDG, IATA).

DOT: Not regulated for transport under 49 cfr.

IMO/IMDG Not regulated as dangerous goods for transport under the IMDG code.

ICAO/IATA Not regulated as dangerous goods for transport under ICAO.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

15. REGULATORY INFORMATION

International Inventories

TSCA Inventory Status: Reported/Included.

AICS Inventory Status: Reported/Included.

EINECS (European Union): Reported/Included

DSL/NDSL Inventory Status: Reported/Included.

German Water Hazard Classification VwVwS: Product ID number 1316, WGK class 1 (low hazard to water)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Reportable Quantity (RQ)
Ethylene glycol 107-21-1	RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA).

Chemical Name	CAS No	Weight-%	SARA 313 – Threshold Values %
Ethylene glycol	107-21-1	8-10	1.0

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

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US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Ethylene glycol - 107-21-1	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Minnesota
Ethylene glycol 107-21-1	X	X	X	X	X

16. OTHER INFORMATION

Full text of H-statements referred to under sections 2 and 3

- H302 Harmful if swallowed
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation
- H373 May cause damage to organs Kidneys through prolonged or repeated exposure if swallowed.

Abbreviations and acronyms

- ATE: Acute Toxicity Estimate.
- CAS: Chemical Abstract Service (division of the American Chemical Society).
- STOT: Single Target Organ Toxicity
- SE: Single exposure
- DNEL: Derived no effect level – a level above which humans should not be exposed.
- PNEC: Predicted No Effect Concentration
- TWA: Time-weighted average.
- SCL: Specific Concentration Limit
- STEL: Short-term exposure limit.
- PBT: Persistent, Bioaccumulative, Toxic.
- vPvB: very Persistent and very Bioaccumulative.

Legal 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.

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