

Boiler Complete Treat "S"

Safety Data Sheet

SECTION 1: Product and company identification

Product name : Boiler Complete Treat "S"
Use of the substance/mixture : Water treatment
Product code : 1960
Company : Total Solutions
P.O. Box 240014
Milwaukee, WI 53224 - USA
T (414) 354-6417
Emergency number : Chemtec: (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Met. Corr. 1 H290
Skin Corr. 1A H314
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : May be corrosive to metals
Causes severe skin burns and eye damage
Precautionary statements (GHS-US) : Keep only in original container
Do not breathe mist, spray
Wash thoroughly after handling
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If inhaled: Remove person to fresh air and keep comfortable for breathing
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a doctor, a POISON CENTER
Wash contaminated clothing before reuse
Absorb spillage to prevent material damage
Store locked up
Store in corrosive resistant container with a resistant inner liner
Dispose of contents/container to comply with local/regional/national/international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable
Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
potassium hydroxide, 45%=<conc<50%, aqueous solutions	(CAS No) 1310-58-3	1-5	Met. Corr. 1, H290 Acute Tox. 3 (Oral), H301 Skin Corr. 1A, H314

Boiler Complete Treat "S"

Safety Data Sheet

Name	Product identifier	%	Classification (GHS-US)
2-(diethylamino)ethanol	(CAS No) 100-37-8	1-5	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314
sodium metabisulphite	(CAS No) 7681-57-4	1-5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
tetrapotassium pyrophosphate, anhydrous	(CAS No) 7320-34-5	1-5	Skin Irrit. 2, H315 Eye Irrit. 2A, H319

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.

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

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after inhalation : May cause respiratory irritation. Possible laryngeal spasm/oedema.
- Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.
- Symptoms/injuries after eye contact : Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage.
- Symptoms/injuries after ingestion : May be harmful if swallowed. Burns to the gastric/intestinal mucosa. Gastrointestinal complaints. Cramps.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : All extinguishing media allowed.

5.2. Special hazards arising from the substance or mixture

- Reactivity : Upon combustion: CO and CO₂ are formed.

5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Take account of environmentally hazardous firefighting water.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Isolate from fire, if possible, without unnecessary risk.

6.1.1. For non-emergency personnel

- Protective equipment : Protective goggles. Gloves. Protective clothing.
- Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing. Ventilate spillage area.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Stop leak if safe to do so. Stop release. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers.
- Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

Boiler Complete Treat "S"

Safety Data Sheet

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Wash thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Add ALWAYS product to water for dilution/mixture. Never add water to this product.

Storage conditions : Keep container closed when not in use.

Incompatible products : acids.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) acids.

Storage area : Meet the legal requirements. Store in a dry area. Store in a cool area.

Special rules on packaging : meet the legal requirements. Keep only in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(diethylamino)ethanol (100-37-8)		
ACGIH	ACGIH TWA (ppm)	2 ppm
ACGIH	ACGIH STEL (ppm)	2 ppm
potassium hydroxide, 45%=<conc<50%, aqueous solutions (1310-58-3)		
ACGIH	ACGIH Ceiling (mg/m³)	2 mg/m³

8.2. Exposure controls

Personal protective equipment : Use appropriate personal protective equipment when risk assessment indicates this is necessary. Gloves. Safety glasses. Protective clothing.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : clear. brown. Liquid.

Odor : slight ammonia.

Odor threshold : No data available

pH : 13 - 14

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : > 200 °F Closed Cup

Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : No data available

Explosion limits : No data available

Explosive properties : No data available

Oxidizing properties : No data available

Vapor pressure : No data available

Relative density : No data available

Relative vapor density at 20 °C : No data available

Specific gravity / density : 1.12 g/ml

Solubility : Soluble in water.

Log Pow : No data available

Log Kow : No data available

Auto-ignition temperature : No data available

Boiler Complete Treat "S"

Safety Data Sheet

Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
VOC content	: ND

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Refer to section 10.1 on Reactivity.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2-(diethylamino)ethanol (100-37-8)	
LD50 oral rat	1320 mg/kg (Rat)
LD50 dermal rabbit	1109 mg/kg (Rabbit)
potassium hydroxide, 45%=<conc<50%, aqueous solutions (1310-58-3)	
LD50 oral rat	273 mg/kg (Rat)
ATE CLP (oral)	273.000 mg/kg body weight
sodium metabisulphite (7681-57-4)	
ATE CLP (oral)	500.000 mg/kg body weight
tetrapotassium pyrophosphate, anhydrous (7320-34-5)	
LD50 dermal rabbit	> 4640 mg/kg (Rabbit)

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 13 - 14
Serious eye damage/irritation	: Not classified pH: 13 - 14
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation. Possible laryngeal spasm/oedema.
Symptoms/injuries after skin contact	: Caustic burns/corrosion of the skin.
Symptoms/injuries after eye contact	: Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage.
Symptoms/injuries after ingestion	: May be harmful if swallowed. Burns to the gastric/intestinal mucosa. Gastrointestinal complaints. Cramps.

SECTION 12: Ecological information

12.1. Toxicity

Boiler Complete Treat "S"

Safety Data Sheet

2-(diethylamino)ethanol (100-37-8)	
LC50 fish 1	100 - 220 mg/l (96 h; Leuciscus idus)
EC50 Daphnia 1	83.6 mg/l (48 h; Daphnia magna)
LC50 fish 2	1780 mg/l (96 h; Pimephales promelas)
Threshold limit algae 1	30 mg/l (72 h; Scenedesmus subspicatus)
potassium hydroxide, 45%=<conc<50%, aqueous solutions (1310-58-3)	
LC50 fish 1	28.6 mg/l (24 h; Pisces; Pure substance)
LC50 other aquatic organisms 1	100 - 1000 mg/l (96 h)
LC50 fish 2	80 mg/l (96 h; Gambusia affinis; Pure substance)
Threshold limit other aquatic organisms 1	100 - 1000,96 h
tetrapotassium pyrophosphate, anhydrous (7320-34-5)	
LC50 fish 1	> 750 mg/l (48 h; Leuciscus idus)

12.2. Persistence and degradability

2-(diethylamino)ethanol (100-37-8)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.002 g O /g substance
Chemical oxygen demand (COD)	0.76 g O /g substance
potassium hydroxide, 45%=<conc<50%, aqueous solutions (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
tetrapotassium pyrophosphate, anhydrous (7320-34-5)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

2-(diethylamino)ethanol (100-37-8)	
Log Pow	0.21 - 0.46
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
potassium hydroxide, 45%=<conc<50%, aqueous solutions (1310-58-3)	
Bioaccumulative potential	Not bioaccumulative.
tetrapotassium pyrophosphate, anhydrous (7320-34-5)	
Bioaccumulative potential	Bioaccumulation: not applicable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

Transport document description : UN3266 Corrosive liquid, basic, inorganic, n.o.s. (Potassium Hydroxide), 8, II
 UN-No.(DOT) : UN3266
 Proper Shipping Name (DOT) : Corrosive liquid, basic, inorganic, n.o.s.
 Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Boiler Complete Treat "S"

Safety Data Sheet

Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II - Medium Danger
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Symbols : G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102) : B2,IB2,T11,TP2,TP27
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
DOT Vessel Stowage Location : B
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters", 52 - Stow "separated from" acids

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

potassium hydroxide, 45%=<conc<50%, aqueous solutions (1310-58-3)	
Not listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

SECTION 16: Other information

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of H-phrases:

Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Irrit. 2	Skin corrosion/irritation Category 2

Boiler Complete Treat "S"

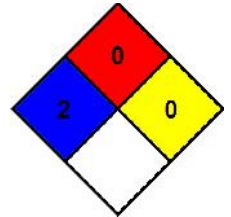
Safety Data Sheet

H226	Flammable liquid and vapor
H290	May be corrosive to metals
H301	Toxic if swallowed
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Prepared by: Technical Department

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