SAFETY DATA SHEET

Issue Date 13-May-2013 **Revision Date** 01-Oct-2017 **Version** 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name TSP-90 Heavy Duty Cleaner – White Granular Powder

Other Means of Identification

SDS # RD-0009

UN/ID No UN3253
Product Code 0261 (1 lb bag), 0265 (4 lb bag)
Synonyms Disodium trioxosilicate

Recommended Use of the Chemical and Restrictions on Use

Recommended Use A heavy duty tri-sodium phosphate substitute cleaner – mix w/ water. Gloves required.
Uses Advised Against Do not use on glass or wood surfaces.

Details of the Supplier of the Safety Data Sheet

Supplier Address
Red Devil, Inc.
4175 Webb Street
Pryor, Oklahoma 74361
www.reddevil.com

Emergency Telephone Number

Company Phone Number 918-825-5744
Fax: 918-825-5761
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Skin Corrosion/Irritation	Category 1 Sub-category C
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Signal Word
DANGER

Hazard Statements
Harmful if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation

Appearance White granular powder **Physical State** Granular **Odor** Odorless to slight musty odor

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
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 doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Do NOT induce vomiting
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms Disodium trioxosilicate.
Formula Na2SiO3*5H2O

Chemical Name	CAS No	Weight-%
Sodium metasilicate pentahydrate	10213-79-3	100

4. FIRST AID MEASURES

First Aid Measures

General Advice Provide this SDS to medical personnel for treatment.

Eye Contact Immediately flush w/ large quantities of water for @ least 15 minutes. Get medical attention immediately.

Skin Contact In case of contact, immediately wash w/ soap & water for @ least 20 minutes while removing contaminated clothing & shoes. Get medical attention immediately. Wash clothing & clean shoes before reuse.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen & get medical attention immediately.

Ingestion Do not induce vomiting, unless directed by medical personnel. Have victim rinse mouth thoroughly w/ water, if conscious. Never give anything by mouth to a victim who is unconscious. Contact a physician or poison control center immediately.

Most Important Symptoms and Effects, both Acute and Delayed

Symptoms May cause irritation to the mucous membranes and upper respiratory tract. Swallowing may cause severe gastrointestinal irritation or burns with nausea, vomiting, and diarrhea. Causes severe skin burns and eye damage.

Indication of any Immediate Medical Attention and Special Treatment Needed

Note to Physicians Treat symptomatically & supportively.
Medical Conditions Aggravated By Exposure: Persons w/ pre-existing kidney disorders may also be more susceptible to the effects of this product.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Product is not flammable.
Unusual Fire Hazards: Product is corrosive & presents a severe inhalation & contact hazard to firefighters. When involved in a fire, material may decompose & produce corrosive &/or toxic gases. Contact w/ common metals may generate flammable hydrogen gas – dilution w/ water will release heat.

Hazardous Combustion Products Toxic gases may be formed by fire.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Unusual Fire Hazards: Product is corrosive & presents a severe inhalation & contact hazard to firefighters. When involved in a fire, material may decompose & produce corrosive &/or toxic gases. Contact w/ common metals may generate flammable hydrogen gas – dilution w/ water will release heat.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Vacuum or sweep up material & place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. While handling product keep out of reach of children and pets. Wash face, hands, and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Use only in well-ventilated areas. Minimize dust generation and accumulation. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Close container after each use & keep tightly closed when not in use. To maximize shelf life, store @ temperatures below 26°C (80°F). Store locked up.

Incompatible Materials Acids. Fluorine. Most common metals; see reactivity in this section.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium metasilicate pentahydrate 10213-79-3	-	15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)	-

Appropriate Engineering Controls

Engineering Controls Facilities storing or utilizing this material should be equipped w/ eyewashes & safety showers. Use w/ adequate ventilation to keep airborne concentrations low & ensure exposure levels maintained below limits provided.

Individual Protection Measures, such as Personal Protective Equipment

Eye/Face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye & face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and Body Protection Skin: Wear appropriate gloves to prevent skin exposure; chemical impervious gloves (eg: Nitrile or Neoprene). Refer to US OSHA 29 CFR 1910.138.

Body/Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respiratory Protection Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. If necessary, refer to OSHA Technical Manual (Sec. VII: Personal Protective Equipment)or appropriate Standards of Canada. Use foot protection, as described in appropriate regulations & standards

Respiratory: If mists or sprays are created, use appropriate respiratory protection. Oxygen levels below 19.5% considered IDLH by OSHA. In such instances, use full-face piece pressure demand SCBA or a full face piece, supplied air respirator w/ auxiliary self-contained air supply.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	Granular		
Appearance	White granular powder	**Odor**	Odorless to slight musty odor
Color	White	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	>12.5 (1% solution)	
Melting Point/Freezing Point	~ 72 °C / 161.6 °F	
Boiling Point/Boiling Range	Not available	
Flash Point	Not Flammable	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	Unknown	
Lower Flammability Limit	Unknown	
Vapor Pressure	Not established	
Vapor Density	Not available	
Relative Density (Specific Gravity)	~1.75 @25°C (77°F)	
Water Solubility	Soluble in water	
Solubility in Other Solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition Temperature	Not applicable	
Decomposition Temperature	Not available	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
Molecular Weight	~212	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions. Flammable hydrogen gas may be produced on prolonged contact w/ materials such as aluminum, tin, lead & zinc.

Chemical Stability
Stable under recommended storage conditions. Stable under normal conditions. If exposed to moisture, material will cake.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Has not been reported.

Conditions to Avoid
Avoid generation of dust, high temperatures, moisture & incompatible materials.

Incompatible Materials
Acids. Fluorine. Most common metals; see reactivity in this section.

Hazardous Decomposition Products
Sodium oxide fumes. Sodium Metasilicate solutions, when heated or acidified, are hydrolyzed to free sodium ions & silicic acid.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Eye Contact Causes severe eye damage.

Skin Contact Causes severe skin burns.

Inhalation May cause irritation to the mucous membranes and upper respiratory tract.

Ingestion Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium metasilicate pentahydrate 10213-79-3	847 mg/Kg (rat)	-	-

Information on Physical, Chemical and Toxicological Effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and Immediate Effects as well as Chronic Effects from Short and Long-term Exposure

Germ Cell Mutagenicity No information available.

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Teratogenicity No information available.

STOT - Single Exposure May cause respiratory irritation.

Neurological Effects Has not been identified.

Other Adverse Effects Clinical studies on test animals exposed to relatively high doses of sodium metasilicate provided reproductive toxicity data. Persons w/ pre-existing kidney disorders may also be more susceptible to the effects of product.

Numerical Measures of Toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
PRACTICES SHOULD BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.
General Product Information: Harmful to aquatic life in low concentrations. Sodium Metasilicate Pentahydrate is toxic to fish & marine organisms when applied to streams, rivers, ponds or lakes, however neutralization w/ dilute acid prior to release to aquatic environment to reduce alkalinity, renders it essentially non-toxic.

Persistence and Degradability
2. Environmental Fate: (Sodium Metasilicate) (Soluble): There is limited information available on the environmental fate & effects of material, if released to the environment. Sodium Metasilicate has exhibited moderate to high toxicity to aquatic organisms & moderate toxicity to terrestrial organisms. Sodium Metasilicate will persist in aquatic & terrestrial systems. Significant releases could have an adverse impact on the pH of an aquatic system. As alkalinity of material neutralizes, it will be reduced to silica. The solubility of silica is such that it will eventually be transported by ground waters

Bioaccumulation
Not determined

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	All wastes must be handled in accordance w/ local, state & federal regulations. Material can be converted to a less hazardous material by neutralization w/ dilute acid, if it complies w/ applicable regulations. Any waste solution w/ a pH of 12.5 or above is a RCRA hazardous waste.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.
US EPA Waste Number	D002.

14. TRANSPORT INFORMATION

Note Shipping Class information is intended as a guide to the overall classification of the product. Classification may be subject to change w/ changes in package size. Consult requirements under 49 CFR, IATA & IMDG for regulatory compliance, specifically related to Limited Quantity, Small Quantities and De minims Exceptions. Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN3253
Proper Shipping Name	Disodium trioxosilicate
Hazard Class	8
Packing Group	III
Reportable Quantity (RQ)	100 lbs
Special Provisions	IB8, IP3

IATA

UN/ID No	UN3253
Proper Shipping Name	Disodium trioxosilicate
Hazard Class	8
Packing Group	III
ERG Code	8L
Special Provisions	None

IMDG

UN/ID No	UN3253
Proper Shipping Name	Disodium trioxosilicate
Hazard Class	8
Packing Group	III
EmS-No	F-A, S-M
Special Provisions	None

15. REGULATORY INFORMATION

International Inventories

TSCA	Not Listed
DSL	Not Listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes

SARA 313

Not determined

US State Regulations

U.S. State Right-to-Know Regulations

Not Determined

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	Not determined	Not determined	Not determined	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	3	0	0	Not determined

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Revision Note	New format

Disclaimer

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.

End of Safety Data Sheet