SAFETY DATA SHEET

RUST VETO 50

SDS according to the Notification on the Hazard Classification and Communication System for Hazardous Substances (B.E. 2555)

Section 1. Identification of the substance/mixture and of the company/undertaking

Product name : RUST VETO 50

Product code : 205602-01

Other means of identification : Not available.

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

Relevant uses : Rust Preventative

Uses advised against : Any other purpose.

Supplier / Manufacturer / Importer : Quaker Houghton (Thailand) Co., Ltd.
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Emergency telephone number (with hours of operation) : CHEMTREC Thailand: 1800014808 CHEMTREC Asia-Pacific Regional: +65 3163 8374

Section 2. Hazards identification

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (ACUTE) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye irritation.
Toxic to aquatic life.

Precautionary statements

Section 2. Hazards identification

Prevention : Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Storage : Not applicable.

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

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
sodium nitrite	≥10 - <25	7632-00-0
2,2',2''-nitrilotriethanol	≤10	102-71-6
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	<1	4719-04-4
methyl-1H-benzotriazole	≤0.3	29385-43-1

The remaining composition is a mixture of non-classified ingredients or additives below the threshold for disclosure.

Section 4. First aid measures

Description of necessary first aid measures

General advice : Get medical attention. If medical advice is needed, have product container or label at hand. Use personal protective equipment as required. Remove contaminated clothing and wash it before reuse. Wash skin surfaces thoroughly after contact.

Inhalation : Move affected person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and wash it before reuse. Get medical attention if symptoms occur.

Eye contact : Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Get medical attention if symptoms occur.

Ingestion : Get medical attention. Ingestion may cause gastrointestinal irritation and diarrhea. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Inhalation : Not expected under normal use.

Skin contact : irritation,redness,skin rash or hives

Eye contact : pain or irritation,redness,watering

Ingestion : stomach pains,nausea or vomiting,diarrhea

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Use personal protective equipment as required.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : In a fire, hazardous decomposition products may be produced. carbon oxides (CO, CO_2) nitrogen oxides metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Put on appropriate personal protective equipment (see Section 8). Keep unnecessary personnel away. Avoid breathing vapor or mist. Provide adequate ventilation.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". Evacuate area.

Environmental precautions : May be harmful to the environment if released in large quantities. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Do not allow any potentially contaminated water, including rain water, runoff from fire fighting or spills, to enter any waterway, sewer or drain.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. For large spills, dike spilled material or otherwise contain it to ensure runoff does not reach a waterway. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest.

Advice on general occupational hygiene : 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. See also Section 8 for additional information on hygiene measures.

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. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
2,2',2''-nitrilotriethanol	**ACGIH TLV (United States, 1/2023).** TWA: 5 mg/m³ 8 hours.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : 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.

Individual protection measures

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. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. Keep equipment clean.

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.

Hand protection : 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.

Other 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. 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.

Section 8. Exposure controls/personal protection

Respiratory protection : A respirator is not needed under normal and intended conditions of product use. Use appropriate respiratory protection if there is a risk of exceeding any exposure limits.

Thermal hazards : Not expected under normal use. Not relevant/applicable due to nature of the product.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear., Yellow.

Odor : Amine-like.

Odor threshold : Not available.

pH : 9.75 [Conc. (% w/w): 2%]

Melting point : Not available.

Boiling point : >100°C (>212°F)

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Density : 1.2 g/cm³ [15°C]

Solubility :

Media	Result
water	Easily soluble

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific measures identified.

Incompatible materials : Strong oxidizing materials. strong acids. strong alkalis

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

Section 10. Stability and reactivity

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity : Harmful if swallowed.

Acute toxicity estimates

Route	ATE value
Oral	730.22 mg/kg

Numerical measures of toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sodium nitrite	LD50 Oral	Rat	180 mg/kg	-
2,2',2"-nitrilotriethanol	LD50 Oral	Rat	7.39 g/kg	-
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.371 mg/l	4 hours
	LD50 Oral	Rat	763 mg/kg	-
methyl-1H-benzotriazole	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	675 mg/kg	-

Irritation/Corrosion : Causes severe eye irritation.

Product/ingredient name	Result	Species	Score	Exposure	Observation
sodium nitrite	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
2,2',2"-nitrilotriethanol	Eyes - Mild irritant	Rabbit	-	10 mg	-
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Human	-	72 hours 15 mg l	-
	Skin - Mild irritant	Rabbit	-	24 hours 560 mg	-
	Skin - Severe irritant	Mouse	-	50 %	-

Sensitization : Causes severe eye irritation.

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

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

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

Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) : Based on available data, the classification criteria are not met.

Name	Category	Route of exposure	Target organs
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	Category 1	inhalation	-

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

Other information : None identified.

Information on the likely routes of exposure

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause sensitization by skin contact.

Eye contact : Causes serious eye irritation.

Ingestion : Harmful if swallowed.

Delayed and immediate effects and also chronic effects from short and long term exposure

None identified.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Not expected under normal use.

Skin contact : irritation,redness,skin rash or hives

Eye contact : pain or irritation,redness,watering

Ingestion : stomach pains,nausea or vomiting,diarrhea

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
sodium nitrite	Acute EC50 159000 µg/l Marine water	Algae - *Tetraselmis chuii*	72 hours
	Acute EC50 1600000 µg/l Marine water	Algae - *Tetraselmis chuii*	96 hours
	Acute EC50 15.4 mg/l	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 1100 µg/l Fresh water	Crustaceans - *Cherax quadricarinatus*	48 hours
	Acute LC50 0.16 µg/l Fresh water	Fish - *Ictalurus punctatus* - Fingerling	96 hours
	Chronic NOEC 0.1 mg/l	Daphnia - *Daphnia obtusa* - Neonate	21 days
	Chronic NOEC 0.01 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	28 days
2,2',2''-nitrilotriethanol	Acute EC50 609.98 mg/l Fresh water	Crustaceans - *Ceriodaphnia dubia* - Neonate	48 hours
	Acute LC50 11800000 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours
	Chronic NOEC 16 mg/l Fresh water	Daphnia - *Daphnia magna*	21 days
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	Acute EC50 6.66 mg/l	Algae - *Desmodesmus subspicatus*	72 hours
	Acute EC50 9 mg/l	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 12 mg/l	Fish - *Brachydanio rerio*	96 hours
methyl-1H-benzotriazole	Acute EC50 53 mg/l	Algae - *Skeletonema costatum*	72 hours
	Acute EC50 55 mg/l	Crustaceans - *Acartia tonsa*	48 hours
	Acute EC50 8.58 mg/l	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 38 mg/l Fresh water	Fish - *Pimephales promelas*	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
sodium nitrite	-3.7	-	Low
2,2',2''-nitrilotriethanol	-1	<3.9	Low
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	-2	-	Low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : 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. Empty containers or liners may retain some product residues. Empty containers retain product residue and can be hazardous. Care should be taken when handling emptied containers that have not been cleaned or rinsed out.

Section 14. Transport information

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Hazardous Substances Act

Type

Ingredient name	CAS number	Threshold	Type	Authority	Conditions
aldehydes	7632-00-0	-	3	The Food and Drug Administration	In Products used in household or public health activity with purposes for disinfecting floor, wall, sanitary ware, and other materials or for anti-clogging of drainage system or sewer line
aldehydes	7632-00-0	-	3	Department of Livestock Development	In products used in animal feed manufacturing, animal farm, slaughter house and meat processing product manufacturing for purposes of disinfection and

Section 15. Regulatory information

					cleaning or for anti-clogging of drainage system or sewer line
formaldehyde	50-00-0	-	2	Department of Industrial Works	Except as a precursor in the manufacture of resins and except the part on responsibility of Department of fisheries
formaldehyde	50-00-0	-	2	Department of Fisheries	In products used for fisheries and aquatic animal farming for the purpose of controlling, preventing, and destroying microorganisms, parasites, plants or other animals
formaldehyde	50-00-0	-	4	The Food and Drug Administration	Prohibited if used as an active ingredient in household and public health products and if used in disinfectants and cleaning products for floors, walls, sanitary ware and other materials.

Harmful Chemicals List

Ingredient name	CAS number	Date/Notes
SODIUM NITRITE	7632-00-0	12/21/2013

International regulations

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Date of issue/Date of revision : 9/25/2023

Version : 2

Prepared by : Quaker Houghton Product Stewardship

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Section 16. Other information

N/A = Not available
SGG = Segregation Group
UN = United Nations

References : Safety data sheets of raw materials, global regulatory body information, scientific literature, and testing data .

Indicates information that has changed from previously issued version.

Notice to reader

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