

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/10/2016

Reviewed on 08/10/2016

### 1 Identification

- **Product Identifier**
- **Trade name: NuKoat NRMF**
- **Product Number: ng-NKNRMF**
- **Relevant identified uses of the substance or mixture and uses advised against:**  
Use as directed by manufacturer.
- **Product Description**  
PC14 Metal surface treatment products, including galvanic and electroplating products
- **Application of the substance / the mixture: Industry-specific application.**
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
NuGeneration Technologies, LLC (dba NuGenTec)  
1155 Park Avenue, Emeryville, CA 94608  
salesteam@nugentec.com www.nugentec.com  
1-888-996-8436 or 1-707-820-4080 for product information
- **Emergency telephone number:**  
PERS Emergency Response: Domestic and Canada - 1-800-633-8253, International 1-801-629-0667

### 2 Hazard(s) Identification

- **Classification of the substance or mixture:**



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements:**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS07 GHS08

- **Signal word: Warning**

- **Hazard-determining components of labeling:**

Proprietary Salt

Proprietary Salt

- **Hazard statements:**

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

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OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/10/2016

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**Trade name: NuKoat NRMF**
**Precautionary statements:**

- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P280 Wear protective gloves.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- P363 Wash contaminated clothing before reuse.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P314 Get medical advice/attention if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**
**NFPA ratings (scale 0 - 4)**

**HMIS-ratings (scale 0 - 4)**

**Hazard(s) not otherwise classified (HNOC):** None known

### 3 Composition/Information on Ingredients

**Chemical characterization: Mixtures**
**Description:** Mixture: consisting of the following components.

**Dangerous Components:**

CAS: 7664-38-2 RTECS: TB 6300000	Phosphoric acid ⚠ Met. Corr. 1, H290; Skin Corr. 1B, H314	1-5%
	Proprietary Salt ⚠ Expl. 1.1, H201; ⚠ Carc. 2, H351; STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	2%
	Proprietary Surfactant ⚠ Flam. Liq. 3, H226; ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	0.75%
	Proprietary Salt ⚠ Eye Irrit. 2A, H319; Skin Sens. 1, H317	1%

(Contd. on page 3)

## Safety Data Sheet (SDS)

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**Trade name: NuKoat NRMF****Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

### 4 First-Aid Measures

**Description of first aid measures:****After inhalation:**

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly. If skin irritation or a rash occurs, consult a doctor.

**After eye contact:**

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.

**After swallowing:**

Rinse out mouth and then drink plenty of water. Do not induce vomiting without medical advice. If vomiting does occur, repeat fluid administration. If swallowed and symptoms occur, consult a doctor.

**Information for doctor:****Most important symptoms and effects, both acute and delayed:**

No further relevant information available.

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

No further relevant information available.

### 5 Fire-Fighting Measures

**Extinguishing media:****Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture:** No further relevant information available.**Advice for firefighters:****Protective equipment:**

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6 Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**Environmental precautions:**

Dilute with plenty of water. Do not allow to enter sewers/surface or ground water.

(Contd. on page 4)

US

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/10/2016

Reviewed on 08/10/2016

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- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Dispose of the collected material according to regulations.
- **Reference to other sections:**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities:**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

### 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters:**  
All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.
- **Components with occupational exposure limits:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

#### 7664-38-2 Phosphoric acid

PEL	Long-term value: 1 mg/m <sup>3</sup>
REL	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
TLV	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

(Contd. on page 5)

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- **Exposure controls:**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
*The usual precautionary measures for handling chemicals should be followed.  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing and wash before reuse.  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes and skin.*
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
 Select glove material based on penetration times, rates of diffusion and degradation.*

- **Material of gloves:**  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.*
- **Penetration time of glove material:**  
*The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.*
- **Eye protection:**



Tightly sealed goggles

- **Body protection:**



Protective work clothing

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Light yellow
<b>Odor:</b>	Mild
<b>Odor threshold:</b>	Not determined.

(Contd. on page 6)

US

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

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· <b>pH-value @ 20 °C (68 °F):</b>	3.8
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Not determined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
· <b>Flash point:</b>	None
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	Not determined.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not self-igniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure @ 20 °C (68 °F):</b>	23 hPa (17 mm Hg)
· <b>Density @ 20 °C (68 °F):</b>	1.1 g/cm <sup>3</sup> (9.18 lbs/gal)
· <b>Relative density:</b>	Not determined.
· <b>Vapor density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility in / Miscibility with:</b>	
<b>Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic @ 20 °C (68 °F):</b>	1 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	82.0 %
· <b>Other information:</b>	No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.

(Contd. on page 7)



## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/10/2016

Reviewed on 08/10/2016

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· **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### 7664-38-2 Phosphoric acid

Oral	LD50	>5000 mg/kg (rat) (OECD Test Guideline 423)
Dermal	LD50	2740 mg/kg (rabbit)

Remarks: Behavioral: Somnolence (general depressed activity). Behavioral: Excitement.

- **Primary irritant effect:**
- **On the skin:**  
Irritant to skin and mucous membranes.  
May cause an allergic skin reaction.
- **On the eye:**  
Strong irritant with the danger of severe eye injury.  
Causes serious eye irritation.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories:**
- **IARC (International Agency for Research on Cancer):**  
Group 1 - Carcinogenic to humans  
Group 2A - Probably carcinogenic to humans  
Group 2B - Possibly carcinogenic to humans  
Group 3 - Not classifiable as to its carcinogenicity to humans  
Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

### 12 Ecological Information

- **Toxicity:** The hazards for the aquatic environment are unknown.
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.

(Contd. on page 8)

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/10/2016

Reviewed on 08/10/2016

**Trade name: NuKoat NRMF**

- **Additional ecological information:**
- **General notes:**  
*Water hazard class 3 (Self-assessment): extremely hazardous for water  
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
 Danger to drinking water if even extremely small quantities leak into the ground.*
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

### 13 Disposal Considerations

- **Waste treatment methods:**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
 Observe all federal, state and local environmental regulations when disposing of this material.*
- **Uncleaned packagings**
- **Recommendation:**  
*Disposal must be made according to official regulations.  
 Dispose of as unused product.*
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport Information

- |   |                               |
|---|-------------------------------|
| <ul style="list-style-type: none"> <li>· <b>UN-Number:</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> </ul>   | <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name:</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> </ul>                             | <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es):</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class:</b></li> </ul> | <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> <li>· <b>Packing group:</b></li> <li>· <b>DOT, ADR, IMDG, IATA</b></li> </ul>  | <i>Non-Regulated Material</i> |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> </ul>   | <i>Not applicable.</i>        |
| <ul style="list-style-type: none"> <li>· <b>Special precautions for user:</b></li> </ul>  | <i>Not applicable.</i>        |
| <ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b></li> </ul>                         | <i>Not applicable.</i>        |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>   | <i>Non-Regulated Material</i> |



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### 15 Regulatory Information

- Safety, health and environmental regulations/legislation specific for the substance or mixture:
- SARA (Superfund Amendments and Reauthorization):

- Section 355 (extremely hazardous substances):

None of the ingredients are listed.

- Section 313 (Specific toxic chemical listings):

7664-38-2 Phosphoric acid

- TSCA (Toxic Substances Control Act):

All ingredients are listed or exempt from listing.

- California Proposition 65:

- Chemicals known to cause cancer:

None of the ingredients are listed.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

- Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

- New Jersey Right-to-Know List:

7664-38-2 Phosphoric acid

- New Jersey Special Hazardous Substance List:

7664-38-2 Phosphoric acid

CO

- Pennsylvania Right-to-Know List:

7664-38-2 Phosphoric acid

- Pennsylvania Special Hazardous Substance List:

7664-38-2 Phosphoric acid

E

- Carcinogenic categories:

- EPA (Environmental Protection Agency):

None of the ingredients are listed.

- TLV (Threshold Limit Value established by ACGIH):

None of the ingredients are listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

- GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 10)

US

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

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· **Hazard pictograms:**



GHS07 GHS08

· **Signal word:** Warning

· **Hazard-determining components of labeling:**

Proprietary Salt

Proprietary Salt

· **Hazard statements:**

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements:**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves.

P272 Contaminated work clothing must not be allowed out of the workplace.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

P363 Wash contaminated clothing before reuse.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of water.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Date of preparation / last revision:** 08/10/2016 / -

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

(Contd. on page 11)

US

**Safety Data Sheet (SDS)**

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ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Expl. 1.1: Explosives – Division 1.1  
Flam. Liq. 3: Flammable liquids – Category 3  
Met. Corr. 1: Corrosive to metals – Category 1  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Skin Sens. 1: Skin sensitisation – Category 1  
Carc. 2: Carcinogenicity – Category 2  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· \* **Data compared to the previous version altered.**

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