

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

1 Identification**- Product identifier**

- **Trade name:** ND Microspheres®
- **Synonyms:** Thermoseal™ 400 - Applied
- **Part number:** 400Applied
- **Application of the substance / the mixture**
 - Sealing
 - Sealant

- Details of the supplier of the safety data sheet**- Manufacturer/Supplier:**

ND Industries, Inc
1000 North Crooks Road
Clawson, MI 48017
USA
Telephone: +1-248-288-0000
Email: info@ndindustries.com
Website: www.ndindustries.com

- Information department: Product safety department**- Emergency telephone number:**

United States: 1-800-424-9300
International: +1-703-527-3887

2 Hazard(s) identification**- Classification of the substance or mixture**

GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
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:**

Diacylate
Acrylic Polymer
benzoyl peroxyde

- Hazard statements

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.

- Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P264 Wash face, hands and any exposed skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P280 Wear protective gloves.
P302+P352 If on skin: Wash with plenty of water.

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 1)

P308+P313 IF exposed or concerned: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P321 Specific treatment (see on this label).
 P363 Wash contaminated clothing before reuse.
 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)****- Other hazards****- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

42594-17-2	Diacrylate	Repr. 2, H361; Skin Sens. 1, H317	30 – 39%
25036-13-9	Polyoxymethylene melamine urea	Skin Irrit. 2, H315	20 – 29%
9002-84-0	Polytetrafluoroethylene	Combustible Dust	10 – 19%
9003-63-8	Acrylic Polymer	Skin Sens. 1, H317; Combustible Dust	5 – 9%
3006-93-7	Vulcanizing Agent	Acute Tox. 3, H311; Acute Tox. 2, H330; Acute Tox. 4, H302	1 – 4%
94-36-0	benzoyl peroxyde	Org. Perox. B, H241; Eye Irrit. 2A, H319; Skin Sens. 1, H317	1 – 4%
	Rubber	Acute Tox. 4, H302	1 – 4%
13463-67-7	titanium dioxide	Carc. 2, H351	≤ 1%

4 First-aid measures

- Description of first aid measures**- General information:**

Immediately remove any clothing soiled by the product.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.

- After inhalation:

Supply fresh air or oxygen; call for doctor.
 In case of unconsciousness place patient stably in side position for transportation.
 Supply fresh air; consult doctor in case of complaints.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** If symptoms persist consult 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:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
 CO₂, sand, extinguishing powder. Do not use water.

- **For safety reasons unsuitable extinguishing agents:** Water

- **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 2)

- Advice for firefighters**- Protective equipment:**

- Mouth respiratory protective device.
- Wear self-contained respiratory protective device.
- Wear fully protective suit.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures

- Remove persons from danger area.
- Ensure adequate ventilation
- Wear protective clothing.

- Environmental precautions:

- Inform respective authorities in case of seepage into water course or sewage system.
- Do not allow to enter sewers/ surface or ground water.

- Methods and material for containment and cleaning up:

- Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation.
- Do not flush with water or aqueous cleansing agents
- 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**

- Thorough dedusting.
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle receptacle with care.

- Information about protection against explosions and fires:

- Keep ignition sources away - Do not smoke.
- Protect against electrostatic charges.
- Prevent impact and friction.
- Keep respiratory protective device available.

- 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:**
 - Keep receptacle tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.

- 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 item 7.**- Control parameters****- Components with limit values that require monitoring at the workplace:**

- The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
- At this time, the other constituents have no known exposure limits.

94-36-0 benzoyl peroxyde

PEL	Long-term value: 5 mg/m ³
REL	Long-term value: 5 mg/m ³
TLV	Long-term value: 5 mg/m ³

13463-67-7 titanium dioxide

PEL	Long-term value: 15* mg/m ³ *total dust
REL	See Pocket Guide App. A
TLV	Long-term value: 10 mg/m ³

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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 3)

- Exposure controls**- Personal protective equipment:****- General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the skin.
- Avoid contact with the eyes and skin.

- Breathing equipment:

- Not required.
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the 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 can not be calculated in advance and has therefore to be checked prior to the application.
Nitrile rubber, NBR

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection: Not required.**- Body protection:** Protective work clothing

9 Physical and chemical properties

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

- Form:** Solid
- Color:** Light blue
- Odor:** Light
- Odor threshold:** Not determined.

- pH-value: Not applicable.**- Change in condition**

- Melting point/Melting range:** Undetermined.
- Boiling point/Boiling range:** $\geq 100\text{ °C}$ ($\geq 212\text{ °F}$)

- Flash point: $\geq 93\text{ °C}$ ($\geq 199.4\text{ °F}$)**- Flammability (solid, gaseous):** Not determined.**- Ignition temperature:** 535 °C (995 °F)**- Decomposition temperature:** Not determined.**- Auto igniting:** Product is not selfigniting.**- Danger of explosion:** Product does not present an explosion hazard.
Risk of explosion by shock, friction, fire or other sources of ignition.**- Explosion limits:**

- Lower:** 1.2 Vol %
- Upper:** 7 Vol %

- Vapor pressure: Not applicable.**- Density:** Not determined.

- Relative density** Not determined.
- Vapor density** Not applicable.
- Evaporation rate** Not applicable.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 4)

- Solubility in / Miscibility with	
- Water:	Insoluble.
- Partition coefficient (n-octanol/water): Not determined.	
- Viscosity:	
- Dynamic:	Not applicable.
- Kinematic:	Not applicable.
- Solvent content:	
- Water:	1.2 %
- VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
- Solids content:	83.3 %
- Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
 - **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.
- **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:		
3006-93-7 Vulcanizing Agent		
Oral	LD50	500 mg/kg (ATE)
Dermal	LD50	300 mg/kg (ATE)
Inhalative	LC50/4 h	0.05 mg/l (ATE)
Rubber		
Oral	LD50	500 mg/kg (ATE)
13463-67-7 titanium dioxide		
Oral	LD50	> 20,000 mg/kg (rat)
Dermal	LD50	> 10,000 mg/kg (rabbit)
Inhalative	LC50/4 h	> 6.82 mg/l (rat)

- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.

- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Toxic
Irritant

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)		
9002-84-0	Polytetrafluoroethylene	3
94-36-0	benzoyl peroxyde	3
9003-01-4	2-propenoic acid, homopolymer	3
13463-67-7	titanium dioxide	2B
79-10-7	acrylic acid	3
112926-00-8	Precipitated silica (Silica-Amorphous)	3

- NTP (National Toxicology Program)

None of the ingredients is listed.

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 5)



12 Ecological information

- **Toxicity**
 - **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.
- **Ecotoxicological effects:**
 - **Remark:** Very toxic for fish
- **Additional ecological information:**
 - **General notes:**
 - Water hazard class 2 (Self-assessment): hazardous for water
 - Do not allow product to reach ground water, water course or sewage system.
 - Danger to drinking water if even small quantities leak into the ground.
 - Also poisonous for fish and plankton in water bodies.
 - Very toxic for aquatic organisms
- **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.
- **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> - UN-Number - DOT, IMDG, IATA 	UN3077
<ul style="list-style-type: none"> - UN proper shipping name - DOT - IMDG - IATA 	Environmentally hazardous substances, solid, n.o.s. (Tricyclodecane dimethanol Diacrylate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tricyclodecane dimethanol Diacrylate), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tricyclodecane dimethanol Diacrylate)
<ul style="list-style-type: none"> - Transport hazard class(es) - DOT, IMDG, IATA <div style="display: flex; align-items: center; gap: 10px;">   </div> <ul style="list-style-type: none"> - Class - Label 	9 Miscellaneous dangerous substances and articles 9
<ul style="list-style-type: none"> - Packing group - DOT, IMDG, IATA 	III
<ul style="list-style-type: none"> - Environmental hazards: - Marine pollutant: - Special marking (IATA): 	Product contains environmentally hazardous substances: Tricyclodecane dimethanol Diacrylate Yes (DOT) Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> - Special precautions for user - Danger code (Kemler): - EMS Number: - Stowage Category 	Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 6)

- Stowage Code	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
- Transport/Additional information:	
- DOT	
- Quantity limitations	On passenger aircraft/rail: No limit On cargo aircraft only: No limit
- Remarks:	Special marking with the symbol (fish and tree).
- IMDG	
- Limited quantities (LQ)	5 kg
- Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
- UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TRICYCLODECANE DIMETHANOL DIACRYLATE), 9, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture

- Sara

- Section 355 (extremely hazardous substances):

None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):

94-36-0 benzoyl peroxyde

79-10-7 acrylic acid

- TSCA (Toxic Substances Control Act):

Diacrylate

Polyoxymethylene melamine urea

Polytetrafluoroethylene

Acrylic Polymer

Dicalcium phosphate

Vulcanizing Agent

benzoyl peroxyde

2-propenoic acid, homopolymer

titanium dioxide

2-carboxyethyl acrylate

N,N-Diethyl-P-Toluidine

acrylic acid

White mineral oil, petroleum

Catalyst

Alumina Trihydrate

Deionized water

- TSCA new (21st Century Act) (Substances not listed)

25036-13-9 Polyoxymethylene melamine urea

9003-63-8 Acrylic Polymer

Rubber

- Proposition 65

- Chemicals known to cause cancer:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

- Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/11/2018

Reviewed on 12/10/2018

Trade name: ND Microspheres®

(Contd. of page 7)

- Carcinogenic categories

- EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
- TLV (Threshold Limit Value established by ACGIH)		
94-36-0	benzoyl peroxyde	A4
13463-67-7	titanium dioxide	A4
79-10-7	acrylic acid	A4
- NIOSH-Ca (National Institute for Occupational Safety and Health)		
13463-67-7	titanium dioxide	

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

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** ND Industries, Inc. - Safety, Health and Environmental Affairs

- **Contact:** Safety, Health and Environmental Affairs

- **Date of preparation / last revision** 12/11/2018 / 11

- Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical 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)
 VOC: Volatile Organic Compounds (USA, EU)
 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
 Org. Perox. B: Organic peroxides – Type B
 Acute Tox. 4: Acute toxicity – Category 4
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 2: Acute toxicity – Category 2
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Skin Sens. 1: Skin sensitisation – Category 1
 Carc. 2: Carcinogenicity – Category 2
 Repr. 2: Reproductive toxicity – Category 2

- * **Data compared to the previous version altered.**

- Disclaimer

The information set forth is based on information that ND Industries, Incorporated believes to be accurate. No warranty, expressed or implied, is intended. The information is provided solely for your information and consideration and ND Industries Inc. assumes no legal responsibility for use or reliance thereon. In the event of a discrepancy between the information on the non-English document and its English counterpart, the English version shall supersede.

©ND and ND Industries, Inc. are registered trademarks of ND Industries Incorporated,

©Vibra-TITE is a registered trademark of ND Industries, Inc.