deffner & Johann

Supplies for RESTORATION | CONSERVATION | ART HANDLING – SINCE 1880

SAFETY DATA SHEET

2090 006 | Nanorestore Cleaning®, Apolar Coating

info@deffner-johann.de | +49 9723 9350-0

CSGI Consorzio Interuniversitario per lo Sviluppo dei Sistemi a Grande Interfase Center for Colloid and Surface Science

deffner & Johann

NANORESTORE CLEANING APOLAR COATING

Art. Nr.: 2090 006

Date of compilation: 21/12/2015
Revision: 0 of 21/12/2015

MATERIAL SAFETY DATA SHEET
In accordance with Regulation (EC) 1907/2006 and Regulation 830/2015

1. Identification of the substance/mixture and of the company/enterprise

1.1** Product identifier:* ***NANORESTORE CLEANING APOLAR COATING (Art. Nr.: 2090 006)

1.2 Relevant identified uses of the substance or mixture:
Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet:
Deffner & Johann GmbH
Mühläckerstr. 13
97520 Röthlein
Germany
Tel.+49-(0)9723-93500

1.4 Emergency phone number:
Tel.:+49-(0)9723-93500 (call during office hours)
E-mail TC: info@deffner-johann.de

2. Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008:
Flammable liquid (category 3)
Skin irritation (category 2)

Hazard statement Code(s):
H226 - Flammable liquid and vapour
H315 - Causes skin irritation

The product is a liquid that ignites at temperatures > 23 °C if it exposed to an ignition source.

2.2. Label elements:
Pictogram, Signal Word Code(s):
Warning

Hazard statement Code(s):
H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.

Precautionary statements:
Prevention
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P243 - Take precautionary measures against static discharge

P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response
P303+P361+P353 - IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower
P332+P313 - If skin irritation occurs: get medical advice/attention.
P370+P378 - In case of fire: use CO_2, foam, chemical powder for flammable liquids to extinguish

Storage
P403+P235 - Store in a well-ventilated place. Keep cool.

2.3 Other hazards:
none information

3. Composition/Information on ingredients

3.2 *Mixtures*

Chemical composition:

Name	Concentration (C)	Classification Regulation CE/1272/2008	
1-Pentanol	5 < C < 10	Flam. Liq. 3	H226
Cas No 71-41-0		Skin Irrit. 2	H315
CE No 200-752-1		Eye Irrit. 2	H319
Index No 603-200-00-1		Acute Tox. 4	H332
		STOT SE	H335
Sodium dodecyl sulphate	3 < C < 5	Flam. Sol. 2	H228
Cas No 151-21-3		Acute Tox. 4	H332
CE No 205-788-1		Acute Tox. 4	H302
		Skin Irrit. 2	H315
		Eye Dam. 1	H318
		STOT SE 3	H335
		Aquatic Chronic 3	H412
p-Xylene*	1 < C ≤ 3	Flam. Liq. 3	H226
Cas No 106-42-3		Acute Tox. 4	H312
CE No 203-396-5		Skin Irrit. 2	H315
Index No 601-022-00-9		Acute Tox. 4	H332

The full text of hazard statements is specified in section 16.
* Substance with occupational exposure limit

4. First-aid measures

4.1 Description of first aid measures
Inhalation
Remove to fresh air. If breathing is irregular seek medical advice immediately.

Skin contact
Take off immediately all contaminated clothing and wash with plenty of water and soap. Seek medical attention. Wash contaminated clothing before using them.

Eyes contact
Irrigate copiously with clean, fresh water for at least 15 minutes, keeping eyelids well- opened.
In case of irritation seek medical attention.

Ingestion
Obtain medical attention immediately. Induce vomiting only if it is indicated by the doctor.
Never give anything by mouth to an unconscious person.

Other
Change contaminated clothing.

4.2. Most important symptoms and effects, both acute and delayed
Not available

4.3. Indication of any immediate medical attention and special treatment needed
Not available

5. Fire-fighting measures

5.1 Extinguishing media
Advised extinguishing agents:
CO_2, foam, chemical powder for flammable liquids.

Unappropriate extinction methods:
Water jets.
Water may not be effective to extinguish the fire, nevertheless it should be used to cool containers exposed to flames and prevent fires and explosions. For leakage and spillage that have not caught fire, nebulized water may be used to disperse the flammable vapors and protect the people involved in stopping the leakage.

5.2. Special hazards arising from the substance or mixture
The product under fire condition may develop irritant/toxic gas (CO_x, SO_x).

5.3. Advice for firefighters
Wear equipment complete with helmet and face shield and protection of the neck, breathing apparatus at pressure or demand, insulative jacket and trousers, with bands around the arms, legs and waist.
Closed containers exposed to heat from fire may build pressure and explode. Contaminated water used to extinguish fire must be disposed in accordance with the laws.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency dust procedures
Avoid the contact with skin and eyes. In the case of vapor formation use suitable protective devices. Supply a good air circulation. Move away any unauthorised person. Eliminate or exclude any source of ignition.

6.2. Environmental precautions
Collect the product in suitable container for disposal. Notify authorities if product enters sewer or public waters.

6.3. Methods and material for containment and cleaning up
Cover the spillage with inert absorbent material. Collect spilled material and place in containers for later disposal. Use water only to remove residuals, so as to prevent the spillage of the product in the sewers.

6.4 Reference to other sections
Refer to paragraphs 8 and 13 for more information

7. Handling and storage

7.1. Precautions for safe handling
Proper ventilation of the workplace. Vapours may ignite with explosion, it is therefore necessary to avoid accumulation keeping the windows and doors open, ensuring cross ventilation. Without adequate ventilation, the vapors may accumulate at the bottom and ignite at a distance, if triggered off, with the risk of flashback. Ground-bond container and receiving equipment during transfer operations and wear antistatic boots.
Avoid the accumulation of electrostatic charge: Use only non-sparking tools. The strong vigorous stirring and flow of the liquid in the pipes and equipment may cause the formation and accumulation of electrostatic charges due to the low conductivity of the product. To avoid the danger of fire and explosion never use compressed air during movement. Open containers with caution because they may be under pressure. Do not handle until you have read and understood all warnings.

7.2. Conditions for safe storage, including any incompatibilities
Store closed containers in a cool, well-ventilated area away from ignition sources. Keep away from heat, sparks and flames, do not smoke, use matches or lighters.

7.3. Specific end use(s)
For particular uses of the product, is necessary to refer to the specific information or contact the technical service of the Company.

8. Exposure controls/ personal protection

8.1. Control parameters
p-Xylene:
OEL-EU: 221 mg/m^3, 50 ppm (as TWA); 442 mg/m^3, 100 ppm (as STEL)

8.2 Exposure controls
Avoid all unnecessary exposure, handle in accordance with good industrial hygiene and safety procedures. Avoid contact with the eyes and skin .Do not eat, drink or smoke while handling it. Accurately wash the hands with soap and water before meals.

Individual protection
The DPI's choice must be done on the basis of the test's results obtained according to the rule EN 374

Hand protection	: protective gloves of nirtile. 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	: protective goggles
Skin protection	: suitable protective clothing
Respiratory protection	: mask with filter (Type ABEK) in case of vapor formation

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method

Appearance	colorless liquid	
Odour	characteristic	
Odour threshold	not available	
pH	6-7	
Melting point/freezing point	not available	
Initial boiling point and boiling range	not available	
Flash point	43°C	DIN EN ISO 3679
Evaporation rate	not available	
Flammability (solid, gas)	not pertinent	
Upper/lower flammability or explosive limits	not pertinent	
Vapour pressure	not available	
Vapour density	not available	
Density	0.94 g/cm^3	
Solubility	miscible in water	
Water solubility	miscible	
Partition coefficient: n-octanol/water	not available	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
Viscosity	not available	
Explosive properties	not explosive	
Oxidising properties	not oxidizing	

9.2. Other information
VOC (Directive 1999/13/CE): 11-15%

10. Stability and reactivity

10.1. Reactivity
In contact with strong oxidants exothermal reaction may occur.

10.2. Chemical stability
The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid
No data available

10.5. Incompatible materials
p-Xylene: oxidizing materials

10.6. Hazardous decomposition products
Due to thermal decomposition or in the event of a fire vapours may be produced potentially dangerous to health (CO_x, SO_x).

11. Toxicological information

11.1. Information on toxicological effects
ATE(mix) oral = 20354,2 mg/kg
ATE(mix) dermal = 37931,0 mg/kg
ATE(mix) inhal = 64,0 mg/l/4 h

Acute effects:
(a) acute toxicity: based on available data, the classification criteria are not met.
(b) skin corrosion/irritation: if brought into contact with the skin, the product causes significant

inflammation with erythema, scabs, or edema.
(c) serious eye damage/irritation: based on available data, the classification criteria are not met.
(d) respiratory or skin sensitization: based on available data, the classification criteria are not met.
(e) germ cell mutagenicity: based on available data, the classification criteria are not met.
(f) carcinogenicity: based on available data, the classification criteria are not met.
(g) reproductive toxicity: based on available data, the classification criteria are not met.
(h) specific target organ toxicity (STOT) single exposure: based on available data, the classification criteria are not met.
(i) specific target organ toxicity (STOT) repeated exposurebased on available data, the classification criteria are not met.
(j) aspiration hazard: based on available data, the classification criteria are not met.

1-Pentanol:
LD50: ca. 3645 mg/kg bw (oral, rat)
LC50:< 14 mg/L air/6h (inhalation, mouse)
LD50: 2292 mg/kg bw (dermal, rabbit)

Sodium dodecyl sulphate:
LD50: 1200 mg/kg bw (oral, rat)

p-Xylene:
ROUTES OF EXPOSURE: the substance can be absorbed into the body by inhalation and through the skin and if swallowed.
INHALATION RISK: a harmful contamination of the air will be reached rather slowly on evaporation of this substance at20 °C.
EFFECTS OF SHORT-TERM: the substance is irritat to eyes and to the skin. The substance may cause effects on the central nervous system. If the liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis.
EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: the liquid degreases the skin. The substance may cause effects on the central nervous system. Animal tests indicate the possibility that this substance causes toxicity to human reproduction or development.
ACUTE HAZARDS / SYMPTOMS
INHALATION .Vertigo. Drowsiness. Headache. Nausea.
SKIN: dry skin.Redness.
EYES: redness.Pain.
INGESTION: burning sensation INGESTION Burning sensation. Abdominal pain. (Further see Inhalation).
NOTES. depending on the degree of exposure, periodic medical examination is indicated.
LD50 5627 mg/kg bw (oral, mouse)

12. Ecological information

12.1. Toxicity
Use this product according to good working practices. Avoid litter. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

1-Pentanol:
LC50: 530 mg / L / 96h (Danio rerio)
EC50: 341.21 mg / L / 48h (Daphnia magna)
Sodium dodecyl sulphate:
LC50: 29 mg / L / 96h (Pimephales promelas)
LC50: 3.15 mg / L / 48h (Artemia salina)

12.2. Persistence and degradability:

1-Pentanol: readily biodegradable: degradability 100% (18 days)
Sodium dodecyl sulphate: degradability75.5% (35 days)
p-Xylene: Readily biodegradable
BOD5: 2.53 g O2/g test mat.
COD:2.62 g O2/g test mat.

12.3. Bioaccumulative potential:
1-Pentanol: log Pow 1.34
Sodium dodecyl sulphate: log Pow <= -2.03 (20 ° C)
BCF about 1.5
p-Xylene: log Pow 3.2

12.4. Mobility in soil: not available

12.5. Results of PBT and vPvB assessment:
1-Pentanol: the substance is not PBT / vPvB
Sodium dodecyl sulphate: the substance is not PBT / vPvB
p-Xylene: the substance is not PBT / vPvB

This product doesn't contain AOX

13. Disposal considerations

13.1. Waste treatment methods
Operate following the current Local or National Laws.
The non reclaimed containers have to be disposed as the product.

14. Transport information

14.1. UN number
1993

If subject to the following characteristics is ADR exempt:
Combination packagings: per inner packaging 1 L per package 30 Kg
Inner packagings placed in skrink-wrapped or stretch-wrapped trays: per inner packaging 1 L per package 20 Kg

14.2. UN proper shipping name
Flammable liquid, n.o.s (contains: 1-Pentanol, p-xylene)

14.3. Transport hazard class(es)
Class : **3**
Label : **3**
Tunnel restriction code : D/E
Limited quantities : 1 L
EmS : F-E, S-E

14.4. Packing group
III

14.5. Environmental hazards
Product is not environmentally hazardous
Marine polluting agent : Not

14.6. Special precautions for user
No data available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
It is not intended to carry bulk

15. Regulatory information

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

Regulation	Cas	Substance
428/2009 ex CE 1334/2000 Ann.1	-	-
273/04 Tab.1 Cat.1	-	-
273/04 Tab.1 Cat.2	-	-
273/04 Tab.1 Cat.3	-	-
Reg. CE 1907/2006 Ann. XIV	-	-
Reg. CE 1907/2006 Substances SVHC	-	-
Reg. CE 1907/2006 Ann. XVII	-	-
2003/105/CE Ann.1 part 1	-	-
2003/105/CE Ann.1 part 2	-	-
2012/18/UE Ann.1 part 1	-	Mixture FLAMMABLE
2012/18/UE Ann.1 part 2	71-41-0 151-21-3 106-42-3	1-Pentanol Sodium dodecyl sulphate p-Xylene

15.2. Chemical safety assessment
none

16. Other information

Description of the sentences of risk set out in paragraph 3:
H226 = Flammable liquid and vapour
H315 = Causes skin irritation
H319 = Causes serious eye irritation.
H332 = Harmful if inhaled.
H335 = May cause respiratory irritation
H228 = Flammable solid
H302 = Harmful if swallowed
H318 = Causes serious eye damage
H412 = Harmful to aquatic life with long lasting effects
H312 = Harmful in contact with skin

Classification based by calculation on data of all components of the mixture.

GENERAL BIBLIOGRAPHY:
1. Regolamento (CE) 1907/2006 del Parlamento Europeo (REACH)
2. Regolamento (CE) 1272/2008 del Parlamento Europeo (CLP) e successivi adeguamenti
3. Regolamento (CE) 790/2009
4. Regolamento (UE) 453/2010
5. Regolamento (UE) 830/2015
6. The Merck Index. Ed. 10
7. Handling Chemical Safety

8. Niosh - Registry of Toxic Effects of Chemical Substances
9. INRS - Fiche Toxicologique
10. Patty - Industrial Hygiene and Toxicology
11. N.I. Sax - Dangerous properties of Industrial Materials-7 Ed., 1989
12. ADR direttiva 2008/68/CE e succesivi adeguamenti
13. ECHA Web site http://echa.europa.eu/web/guest
14. Directive 2012/18/UE
15. Directive 2009/161/UE

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