Safety Data Sheet

Emulsifier

Version 1.5 Revision Date: 04/13/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : emulsifier
Product Use Descrption : Surfactant

Manufacturer or supplier's details

Company : Emulso Corporation
Address 2750 Kenmore Avenue
Tonawanda, New York 14150
United States of America

Emergency telephone number
Health North America: 1-716-854-2889

Transport North America: INFOTRAC (1-800-535-5053)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Serious eye damage : Category 1

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.

Precautionary statements : Prevention :
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/

spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
Response :
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 + P310 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.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.

Potential Health Effects

Carcinogenicity :

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Emergency Overview

WARNING!	
Appearance	liquid
Colour	yellow
Odour	mild

Hazard Summary	No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical Name	Concentration (%)
127087-87-0	Nonylphenol polyethylene glycol ether	90 - 100
25322-68-3	Polyethylene glycol	1 - 5

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical Carbon dioxide (CO2) Water spray
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

NFPA Flammable and Combustible Liquids Classification :
Combustible Liquid Class IIIB

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in

the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully re-sealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
25322-68-3	Polyethylene glycol	TWA	10 mg/m3	US WEEL

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow
Odour	:	mild
Odour Threshold	:	No data available
pH	:	7.2 @ 20 - 25 °C (68 - 77 °F)
Freezing Point (Melting point/freezing point)	:	< 14 °C (< 57 °F)
Boiling Point (Boiling point/boiling range)	:	> 200 °C (> 392 °F)
Flash point	:	> 200 °C (> 392 °F)
Evaporation rate	:	< 0.01 n-Butyl Acetate
Flammability (solid, gas)	:	No data available
Burning rate	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	< 0.01 mmHg @ 20 °C (68 °F)
Relative vapour density	:	> 1(Air = 1.0)
Relative density	:	1.02 - 1.08 @ 20 °C (68 °F) Reference substance: (water = 1)
Density	:	1.05 - 1.08 g/cm3 @ 20 °C (68 °F)
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	log Pow: 2.1 - 4.5

Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, kinematic	:	> 200 mm2/s @ 25 °C (77 °F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Avoid contact with: Strong acids Strong oxidizing agents aluminum strong bases strong reducing agents

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product :

Acute oral toxicity	:	Acute toxicity estimate : 4,854 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : 11 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : 2,534 mg/kg Method: Calculation method

Components :

127087 -87 -0:

Acute oral toxicity : LD50 (rat): 5,000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: No data available

Acute dermal toxicity : LD50 (rabbit): 2,573 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

25322 -68 -3:

Acute oral toxicity : LD50 (rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (rat): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Product :

Remarks: Irritating to skin.

Components :

127087 -87 -0:
Result: Irritating to skin.
Remarks: No data available

25322 -68 -3:
Remarks: No data available

Serious eye damage/eye irritation

Product :

Remarks: Risk of serious damage to eyes.

Components :

127087 -87 -0:
Result: Risk of serious damage to eyes.
Remarks: No data available

25322 -68 -3:

Species: rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Components :

127087 -87 -0:
Species: guinea pig
Result: Did not cause sensitisation on laboratory animals.

25322 -68 -3:
Species: guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Components :

127087 -87 -0:

Genotoxicity in vitro	:	Remarks: No data available
Germ cell mutagenicity-Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

25322 -68 -3:

Genotoxicity in vitro	:	Test Type: Ames test Test species: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative
Germ cell mutagenicity-Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components :

127087 -87 -0:
Remarks: This information is not available.

Carcinogenicity - Assessment	:	No evidence of carcinogenicity in animal studies.

25322 -68 -3:
Remarks: This information is not available.

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Components :

127087 -87 -0 :

Effects on fertility	:	Remarks: No data available
Effects on foetal development	:	Remarks: No data available
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

25322 -68 -3 :

Effects on fertility	:	Test Type: Three-generation study Species: rat, male and female Application Route: oral Dose: 0, 15, 59, 270, 1690 mg/kg bw General Toxicity - Parent: NOAEL: 60 mg/kg bw Result: No reproductive effects.
Effects on foetal development	:	Species: rat Application Route: oral Dose: 1500-5000 mg/kg bw d Duration of Single Treatment: 9 d Teratogenicity: NOAEL: 1,500 mg/kg bw
Reproductive toxicity - Assessment	:	No toxicity to reproduction Did not show teratogenic effects in animal experiments.

STOT - single exposure

Product : No data available

Components :

127087-87-0: No data available

25322-68-3:

Exposure routes :	Target Organs :	Assessment :	Remarks :
Inhalation	Respiratory system	May cause respiratory irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.	

STOT - repeated exposure

Product : No data available

Components :

127087 -87 -0 : No data available

25322 -68 -3 : No data available

Repeated dose toxicity

Components :

127087 -87 -0 :
Species: rat
Application Route: Oral
Exposure time: 2 y
Dose: 200
Remarks: No adverse effect has been observed in chronic toxicity tests.

25322 -68 -3 :
Species: dog, male and female
NOAEL: 500 mg/kg
Application Route: Oral
Exposure time: 1 yr
Number of exposures: daily
Dose: 0, 500 mg/kg

Aspiration toxicity

Components :

25322 -68 -3 :
No aspiration toxicity classification

Further information

Product :

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components :

127087 -87 -0 :

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 1.2 - 9.3 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 1.6 - 10 mg/l Exposure time: 48 h Test Type: Immobilization
Toxicity to algae	: Remarks: No data available
Ecotoxicology Assessment Chronic aquatic toxicity	: Toxic to aquatic life with long lasting effects.

25322 -68 -3:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae	: EC50 (Skeletonema costatum): > 100 mg/l End point: Biomass Exposure time: 72 h Test Type: Growth inhibition

Persistence and degradability

Components :

127087 -87 -0:

Biodegradability	: Result: Not readily biodegradable. Biodegradation: < 60 % Exposure time: 28 d Method: OECD Test Guideline 301B

25322 -68 -3:

Biodegradability	: Result: Readily biodegradable. Biodegradation: 90 % Exposure time: 28 d Method: OECD Test Guideline 301F
Chemical Oxygen Demand (COD)	: 0.00182 mg/g
Theoritical Oxygen Demand (ThOD)	: 0.00177 mg/g

Bioaccumulative potential

Components :

25322 -68 -3:

Partition coefficient: n-octanol/water	:	Pow: 0.2 (30 °C) pH: 6.44

Mobility in soil

No data available

Other adverse effects

No data available

Product :

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Di sposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association) : UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (NONYLPHENOL POLYETHYLENE GYCOL ETHER) , 9, III, Flash Point:> 200 °C(> 392 °F)

IMDG (International Maritime Dangerous Goods): UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (NONYLPHENOL POLYETHYLENE GYCOL ETHER), 9, III

DOT (Department of Transportation) : UN3082, Environmentally hazardous substances, liquid, n.o.s., (NONYLPHENOL POLYETHYLENE GYCOL ETHER), 9, III

Special Notes: : Class 9, Packing Group III when material is shipped in quantities in one package at or above the Reportable Quantity and when no other hazard class applies; otherwise, not regulated.

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Toxic by inhalation., Moderate skin irritant, Moderate respiratory irritant

WHMIS Classification : D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right - to - Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
1,4-Dioxane	123-91-1	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

123-91-1 1,4-Dioxane 0.002 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

25322-68-3	Polyethylene glycol	3 %
123-91-1	1,4-Dioxane	0.002 %

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. Clean-Water Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

123-91-1	1,4-Dioxane	0 - 0.1 %

Pennsylvania Right To Know

127087-87-0	Nonylphenol polyethylene glycol ether	90 - 100 %
25322-68-3	Polyethylene glycol	1 - 5 %

New Jersey Right To Know

127087-87-0	Nonylphenol polyethylene glycol ether	90 - 100 %
25322-68-3	Polyethylene glycol	1 - 5 %
9014-93-1	Polyoxyethylene dinonylphenol	1 - 5 %

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

123-91-1	1,4-Dioxane

The components of this product are reported in the following inventories:

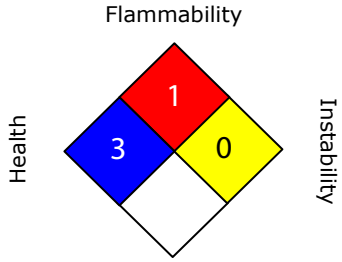
Switzerland. New notified substances and declared preparations	:	n (Negative listing) (The formulation contains substances listed on the Swiss Inventory)
United States TSCA In ventory	:	y (positive listing) (On TSCA Invento-ry)
Canadian Domestic Substances List (DSL)	:	y (positive listing) (All components of this product are on the Canadian DSL.)
Australia Inventory of Chemical Substances (AICS)	:	y (positive listing)

		(On the inventory, or in compliance with the inventory)
Japan. ENCS - Existing and New Chemical Substances Inventory	:	n (Negative listing) (Not in compliance with the inventory)
Japan. ISHL - Inventory of Chemical Substances (METI)	:	n (Negative listing) (Not in compliance with the inventory)
Korea. Korean Existing Chemicals Inventory (KECI)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
China. Inventory of Existing Chemical Substances in China (IECSC)	:	y (positive listing) (On the inventory, or in compliance with the inventory)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Legecy MSDS: 000000219438

Material number :
540316, 55674, 89460, 89461, 88723, 105768, 20282, 541573, 104165, 71406, 72330, 20278, 55965, 72351, 20280, 20279, 505151, 20277, 508300

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philipines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical In-	UVCB	Unknown or Variable Compositon,

	ventory		Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50		Lethal Concentration 50%	