

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 11/12/2019 Revision date: 11/12/2019 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : Method A QC/Spike Mix

AL0-130809 Product code

Recommended use and restrictions on use

No additional information available

Phenova

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1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924

ChemTel Assistance (International) +1 813-248-0585

SECTION 2: Hazard(s) identification

GHS US classification

Flammable liquids H225 Highly flammable liquid and vapour

Category 2

Acute toxicity (oral) H301 Toxic if swallowed

Category 3

Acute toxicity (dermal) H311 Toxic in contact with skin

Category 3

Germ cell mutagenicity H340 May cause genetic defects

Category 1B

Carcinogenicity Category H350

Specific target organ

toxicity (single exposure)

Category 1 Specific target organ H372

toxicity (repeated exposure)

Category 1

Full text of H statements : see section 16

May cause cancer

Causes damage to organs

2.2. GHS Label elements, including precautionary statements

H370

GHS US labeling

Hazard pictograms (GHS US)







Causes damage to organs through prolonged or repeated exposure

Signal word (GHS US) : Danger

Hazard statements (GHS US) H225 - Highly flammable liquid and vapour

H301+H311 - Toxic if swallowed or in contact with skin

H340 - May cause genetic defects

H350 - May cause cancer

H370 - Causes damage to organs

H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

P233 - Keep container tightly closed.

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

P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product.

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

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P301+P310 - If swallowed: Immediately call a poison center or doctor

P302+P352 - If on skin: Wash with plenty of water

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse

skin with water/shower

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

P314 - Get medical advice/attention if you feel unwell.

P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.

P370+P378 - In case of fire: Use media other than water to extinguish.

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

P501 - Dispose of contents/container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US

Not applicable

SECTION 3: Composition/Information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Name	Product identifier	Conc.
methanol (Component)	(CAS-No.) 67-56-1	83
aniline (Component)	(CAS-No.) 62-53-3	5
nitrobenzene (Component)	(CAS-No.) 98-95-3	5
benzene (Component)	(CAS-No.) 71-43-2	1
toluene (Component)	(CAS-No.) 108-88-3	1
1,2-dichlorobenzene (Component)	(CAS-No.) 95-50-1	1
chlorobenzene (Component)	(CAS-No.) 108-90-7	1
o-toluidine (Component)	(CAS-No.) 95-53-4	1
2-nitrotoluene (Component)	(CAS-No.) 88-72-2	1
4-nitrotoluene (Component)	(CAS-No.) 99-99-0	1

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical

advice (show the label where possible).

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed

by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness

persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and

symptoms

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any

chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect

spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or

smoking and when leaving work. Provide good ventilation in process area to prevent formation

of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container

closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Method A QC/Spike Mix		
ACGIH	Local name	Methanol
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	250 ppm
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
benzene (71-43-2)		
ACGIH	Local name	Benzene
ACGIH	ACGIH TWA (ppm)	0.5 ppm

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ACGIH STEL (ppm)	2.5 ppm
Remark (ACGIH)	Leukemia
Regulatory reference	ACGIH 2018
OSHA PEL (TWA) (ppm)	10 ppm
OSHA PEL (Ceiling) (ppm)	25 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	50 ppm 10 mins.
Regulatory reference (US-OSHA)	OSHA
NIOSH REL (TWA) (ppm)	0.1 ppm
NIOSH REL (STEL) (ppm)	1 ppm
Local name	Toluene
ACGIH TWA (ppm)	20 ppm (Toluene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Remark (ACGIH)	Visual impair; female repro;
Regulatory reference	ACGIH 2018
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm 10 mins.
Remark (OSHA)	(2) See Table Z-2.
Regulatory reference (US-OSHA)	OSHA
90-7)	
Local name	Chlorobenzene
ACGIH TWA (ppm)	10 ppm (Chlorobenzene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Remark (ACGIH)	Liver dam
Regulatory reference	ACGIH 2018
OSHA PEL (TWA) (mg/m³)	350 mg/m³
OSHA PEL (TWA) (ppm)	75 ppm
Regulatory reference (US-OSHA)	OSHA
Local name	Aniline
ACGIH TWA (ppm)	2 ppm (Aniline; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
Remark (ACGIH)	Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except unde uncommon or unlikely routes or levels of exposure); BEI 93.12 MeHb-emia
Regulatory reference	ACGIH 2018
OSHA PEL (TWA) (mg/m³)	19 mg/m³
OSHA PEL (TWA) (ppm)	5 ppm
Regulatory reference (US-OSHA)	OSHA
(95-50-1)	
(00 00 1)	
	Remark (ACGIH) Regulatory reference OSHA PEL (TWA) (ppm) OSHA PEL (Ceiling) (ppm) Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift Regulatory reference (US-OSHA) NIOSH REL (TWA) (ppm) NIOSH REL (STEL) (ppm) Local name ACGIH TWA (ppm) Remark (ACGIH) Regulatory reference Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift Remark (OSHA) Regulatory reference (US-OSHA) 90-7) Local name ACGIH TWA (ppm) Remark (ACGIH) Regulatory reference (US-OSHA) 90-7) Local name ACGIH TWA) (ppm) Regulatory reference (US-OSHA) COSHA PEL (TWA) (mg/m³) OSHA PEL (TWA) (ppm) Regulatory reference (US-OSHA) Local name ACGIH TWA (ppm) Regulatory reference (US-OSHA) Regulatory reference (US-OSHA) Remark (ACGIH) Regulatory reference (US-OSHA) Remark (ACGIH) Regulatory reference (US-OSHA)

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1,2-dichlorobenzer		
ACGIH	ACGIH TWA (ppm)	25 ppm
ACGIH	ACGIH STEL (ppm)	50 ppm
ACGIH	Remark (ACGIH)	URT & eye irr; liver dam
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (Ceiling) (mg/m³)	300 mg/m³
OSHA	OSHA PEL (Ceiling) (ppm)	50 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
o-toluidine (95-53-	4)	
ACGIH	ACGIH TWA (ppm)	2 ppm (o-Toluidine; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
OSHA	OSHA PEL (TWA) (mg/m³)	22 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	5 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
nitrobenzene (98-9	5-3)	
ACGIH	Local name	Nitrobenzene
ACGIH	ACGIH TWA (ppm)	1 ppm (Nitrobenzene; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	MeHb-emia
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	1 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
2-nitrotoluene (88-	72-2)	
ACGIH	Local name	Nitrotoluene, all isomers (1992)
ACGIH	ACGIH TWA (ppm)	2 ppm
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m³)	30 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	5 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
4-nitrotoluene (99-	99-0)	
ACGIH	Local name	Nitrotoluene, all isomers (1992)
ACGIH	ACGIH TWA (ppm)	2 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	30 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	5 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
methanol (67-56-1)		
ACGIH	Local name	Methanol
ACGIH	ACGIH TWA (ppm)	200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

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8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

: Colorless

characteristic

: No data available

Odor threshold : No data available pH : No data available

Melting point : No data available

Freezing point : No data available
Boiling point : No data available

Flash point : No data available Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : Non flammable.

Vapor pressure : No data available Relative vapor density at 20 °C : No data available

Relative density : No data available Solubility : No data available

Log Pow : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Decomposition temperature : No data available Viscosity, kinematic : No data available

Explosion limits : No data available

Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Viscosity, dynamic

No additional information available

10.2. Chemical stability

Not established.

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10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Acute toxicity	: Not classified
Method A QC/Spike Mix	
ATE US (oral)	109.097 mg/kg body weight
ATE US (dermal)	341.485 mg/kg body weight
benzene (71-43-2)	
LD50 oral rat	> 2000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LC50 inhalation rat (mg/l)	43.767 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Female, Experimental value, Inhalation (vapours))
LC50 inhalation rat (ppm)	13700 ppm (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Female, Experimental value, Inhalation (vapours))
ATE US (vapors)	43.767 mg/l/4h
ATE US (dust, mist)	43.767 mg/l/4h
toluene (108-88-3)	
LD50 oral rat	> 2000 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 5580 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rabbit	12223 mg/kg (Rabbit; Literature study; Other; >5000 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	> 20 mg/l/4h (Rat; Literature study)
ATE US (dermal)	12223 mg/kg body weight
chlorobenzene (108-90-7)	
LD50 oral rat	> 1427 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value; >2000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 2200 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	17 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	3630 ppm/4h (Rat)
ATE US (oral)	500 mg/kg body weight
ATE US (gases)	3630 ppmV/4h
ATE US (vapors)	17 mg/l/4h
ATE US (dust, mist)	17 mg/l/4h
aniline (62-53-3)	
LD50 oral rat	250 mg/kg (Rat)
LD50 dermal rabbit	840 mg/kg (Rabbit; Experimental value; 21 CFR 191.10; 836 mg/kg bodyweight; Rabbit)
LC50 inhalation rat (mg/l)	3.27 mg/l/4h (Rat; Experimental value)
ATE US (oral)	250 mg/kg body weight
ATE US (dermal)	840 mg/kg body weight
ATE US (vapors)	3.27 mg/l/4h
ATE US (dust, mist)	3.27 mg/l/4h
1,2-dichlorobenzene (95-50-1)	
LD50 oral rat	500 mg/kg (Rat, Oral)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit, Dermal)
LC50 inhalation rat (mg/l)	9.5 mg/l (4 h, Rat, Inhalation)

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1,2-dichlorobenzene (95-50-1)	
ATE US (oral)	500 mg/kg body weight
ATE US (vapors)	9.5 mg/l/4h
ATE US (dust, mist)	9.5 mg/l/4h
o-toluidine (95-53-4)	
LD50 oral rat	670 mg/kg (Rat)
LD50 dermal rabbit	3250 mg/kg (Rabbit)
ATE US (oral)	670 mg/kg body weight
ATE US (dermal)	3250 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
nitrobenzene (98-95-3)	
LD50 oral rat	640 mg/kg (Rat; Experimental value; 588 mg/kg bodyweight; Rat)
LD50 dermal rabbit	760 mg/kg body weight (Rabbit; Experimental value)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	760 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
2-nitrotoluene (88-72-2)	
LD50 oral rat	891 mg/kg (Rat, Oral)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit, Dermal)
ATE US (oral)	891 mg/kg body weight
4-nitrotoluene (99-99-0)	
LD50 oral rat	> 2250 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 750 mg/kg body weight (24 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 0.851 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 day(s))
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm/4h (Rat; Literature study)
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.

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toluene (108-88-3)		
IARC group	3 - Not classifiable	
aniline (62-53-3)		
IARC group	3 - Not classifiable	
o-toluidine (95-53-4)		
IARC group	1 - Carcinogenic to humans	
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen, Known Human Carcinogens	
nitrobenzene (98-95-3)		
IARC group	2B - Possibly carcinogenic to humans	
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen	
2-nitrotoluene (88-72-2)		
IARC group	2A - Probably carcinogenic to humans	
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen	
4-nitrotoluene (99-99-0)		
IARC group	3 - Not classifiable	
Depreductive toxicity	. Not alongified	

Reproductive toxicity : Not classified

STOT-single exposure : Causes damage to organs.

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Potential Adverse human health effects and

symptoms

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

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 12: Ecological information

12.1. Toxicity

benzene (71-43-2)		
LC50 fish 1	5.3 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)	
EC50 Daphnia 1	10 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)	
ErC50 (algae)	100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)	
chlorobenzene (108-90-7)		
LC50 fish 1	4.5 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value)	
EC50 Daphnia 1	26 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)	
LC50 fish 2	4.7 mg/l (LC50; 96 h)	
EC50 Daphnia 2	0.59 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)	
ErC50 (algae)	11.4 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)	
aniline (62-53-3)		
LC50 fish 1	7.4 - 15.3 mg/l (96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value)	
EC50 Daphnia 1	0.16 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semistatic system, Fresh water, Experimental value)	
1,2-dichlorobenzene (95-50-1)		
LC50 fish 1	1.58 mg/l (96 h, Salmo gairdneri, Measured concentration)	

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EC50 Daphnia 1

1,2-dichlorobenzene (95-50-1)

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o-toluidine (95-53-4)	
LC50 fish 1	68 - 100 mg/l (LC50; 96 h; Leuciscus idus)
EC50 Daphnia 1	0.52 mg/l (EC50; 48 h)
nitrobenzene (98-95-3)	
LC50 fish 1	4.3 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 48 h; Oryzias latipes)
EC50 Daphnia 1	35 mg/l (Other, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
2-nitrotoluene (88-72-2)	
LC50 fish 1	65 mg/l (96 h, Brachydanio rerio, Static system)
EC50 Daphnia 1	5.4 mg/l (48 h, Daphnia magna)
4-nitrotoluene (99-99-0)	
LC50 fish 1	49.7 mg/l (EPA 660/3 - 75/009, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	4.2 mg/l (ISO 6341 15 Water quality - Determination of the Inhibition of the Mobility of Daphnia magna Straus (Cladocera, Crustaceae), 48 h, Daphnia magna, Fresh water, Experimental value, Locomotor effect)
methanol (67-56-1)	
LC50 fish 1	15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10800 mg/l (LC50; 96 h; Salmo gairdneri)
12.2. Persistence and degradability	
Method A QC/Spike Mix	
Persistence and degradability	Not established.
benzene (71-43-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.18 g O ₂ /g substance
Chemical oxygen demand (COD)	2.15 g O₂/g substance
ThOD	3.1 g O₂/g substance
BOD (% of ThOD)	0.7
toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	2.15 g O₂/g substance
Chemical oxygen demand (COD)	2.52 g O₂/g substance
ThOD	3.13 g O₂/g substance
BOD (% of ThOD)	0.69
chlorobenzene (108-90-7)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0.03 g O₂/g substance
Chemical oxygen demand (COD)	0.41 g O₂/g substance
ThOD	2.06 g O₂/g substance
BOD (% of ThOD)	0.0145
aniline (62-53-3)	
Persistence and degradability	Readily biodegradable in water. Photodegradation in water. Inhibition of nitrification.
,	Biodegradable in the soil. Low potential for adsorption in soil.

0.74 mg/l (48 h, Daphnia magna)

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1,2-dichlorobenzene (95-50-1)

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water
BOD (% of ThOD)	Non degradable in the soil. Not readily biodegradable in water. 0
	U
o-toluidine (95-53-4)	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water. Photolysis in the air.
Biochemical oxygen demand (BOD)	1.43 g O₂/g substance
ThOD	2.54 g O₂/g substance
BOD (% of ThOD)	0.56
nitrobenzene (98-95-3)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil. Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0 g O ₂ /g substance
ThOD	1.95 g O₂/g substance
BOD (% of ThOD)	0
2-nitrotoluene (88-72-2)	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
4-nitrotoluene (99-99-0)	, ,
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
methanol (67-56-1)	, ,
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance
BOD (% of ThOD)	0.8 (Literature study)
202 (70 0. 11102)	oro (Energialar orang)
12.2 Piasasumulativa natantial	
12.3. Bioaccumulative potential	
Method A QC/Spike Mix	Not established
Method A QC/Spike Mix Bioaccumulative potential	Not established.
Method A QC/Spike Mix	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2)	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3)	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500).
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7)	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500).
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3)	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500).
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 1	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value) 2.6 (BCF; Danio rerio; Static system)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value) 2.6 (BCF; Danio rerio; Static system) 0.91 (Experimental value; EU Method A.8: Partition Coefficient; 25 °C)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value) 2.6 (BCF; Danio rerio; Static system)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value) 2.6 (BCF; Danio rerio; Static system) 0.91 (Experimental value; EU Method A.8: Partition Coefficient; 25 °C) Low potential for bioaccumulation (BCF < 500).
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential 1,2-dichlorobenzene (95-50-1) BCF fish 1	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value) 2.6 (BCF; Danio rerio; Static system) 0.91 (Experimental value; EU Method A.8: Partition Coefficient; 25 °C) Low potential for bioaccumulation (BCF < 500). 90 - 260 (Cyprinus carpio, Test duration: 8 weeks)
Method A QC/Spike Mix Bioaccumulative potential benzene (71-43-2) BCF fish 1 Log Pow Bioaccumulative potential toluene (108-88-3) BCF fish 2 Log Pow Bioaccumulative potential chlorobenzene (108-90-7) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential aniline (62-53-3) BCF fish 1 BCF fish 2 Log Pow Bioaccumulative potential	< 10 (OECD 305: Bioconcentration: Flow-Through Fish Test, 3 day(s), Leuciscus idus, Flow-through system, Fresh water, Experimental value) 2.13 (Experimental value, 25 °C) Low potential for bioaccumulation (BCF < 500). 90 (BCF; 72 h; Leuciscus idus; Static system; Fresh water) 2.73 (Experimental value; Other; 20 °C) Low potential for bioaccumulation (BCF < 500). 447 (BCF) 3.9 - 40 (BCF) 2.8 - 2.98 Low potential for bioaccumulation (BCF < 500). 2.6 (Danio rerio, Static system, Fresh water, Experimental value) 2.6 (BCF; Danio rerio; Static system) 0.91 (Experimental value; EU Method A.8: Partition Coefficient; 25 °C) Low potential for bioaccumulation (BCF < 500).

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1,2-dichlorobenzene (95-50-1)

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

28840 (Callinectus sapidus)
3.43 (Experimental value)
Potential for bioaccumulation (500 ≤ BCF ≤ 5000).
2.2 (BCF; 48 h)
5.9 (BCF)
1.29 - 1.4
Low potential for bioaccumulation (BCF < 500).
Low potential for bioaccumulation (Bot 1 300).
45 (005 0701)
15 (BCF; 672 h)
1.6 - 7.7 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 42 days; Cyprinus carpio; Flow-through system; Fresh water; Experimental value)
24 (BCF)
1.85 (Calculated; 1.86; Experimental value; EU Method A.8: Partition Coefficient)
Low potential for bioaccumulation (BCF < 500).
12.5 - 29.9 (Cyprinus carpio, Test duration: 6 weeks)
190 (72 h, Poecilia reticulata)
2.3
Low potential for bioaccumulation (BCF < 500).
3.7 - 7.2 (42 day(s), Cyprinus carpio, Experimental value)
2.37 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Low potential for bioaccumulation (BCF < 500).
< 10 (BCF; 72 h; Leuciscus idus)
-0.77 (Experimental value; Other)
Low potential for bioaccumulation (BCF < 500).
zon potential for produced matation (201 - 500).
0.029 N/m (20 °C)
2.13 (log Koc, Calculated value)
Low potential for adsorption in soil.
0.03 N/m (20 °C)
0.033 N/m (25 °C)
Koc,PCKOCWIN v1.66; 268; Calculated value; log Koc; PCKOCWIN v1.66; 2.42; Calculated value
Low potential for adsorption in soil.
0.071 N/m (20 °C; 0.042 N/m; 25 °C; 0.039 N/m; 50 °C; 0.037 N/m; 75 °C)
Koc,130; Experimental value; GLP
Low potential for adsorption in soil.
0.037 N/m (20 °C)
1 0.037 N/III (ZU - C)
Adsorbs into the soil.
Adsorbs into the soil.
Adsorbs into the soil.
Adsorbs into the soil.

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nitrobenzene (98-95-3)			
Ecology - soil	Low potential for adsorption in soil.		
2-nitrotoluene (88-72-2)	2-nitrotoluene (88-72-2)		
Surface tension	0.042 N/m (15 °C)		
4-nitrotoluene (99-99-0)			
Surface tension	36.8 mN/m (60 °C, 100 vol %)		
Log Koc	2.455 - 2.560 (log Koc, SRC PCKOCWIN v2.0, Calculated value)		
Ecology - soil	Low potential for adsorption in soil.		
methanol (67-56-1)			
Surface tension	0.023 N/m (20 °C)		
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value		

12.5. Other adverse effects

Method A QC/Spike Mix	
benzene (71-43-2)	
toluene (108-88-3)	
chlorobenzene (108-90-7)	
Chioropenzene (100-30-7)	
aniline (62-53-3)	
4.0 diablems have seen (05.50.4)	
1,2-dichlorobenzene (95-50-1)	
o-toluidine (95-53-4)	
,	
nitrobenzene (98-95-3)	
2-nitrotoluene (88-72-2)	
_ ::::: etc::ue:::c (ec :)	
4-nitrotoluene (99-99-0)	
methanol (67-56-1)	
modification (07-00-1)	

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1230 Methanol (methanol ; aniline ; nitrobenzene ; benzene ; toluene ; 1,2-dichlorobenzene

; chlorobenzene ; o-toluidine ; 2-nitrotoluene ; 4-nitrotoluene), 3 (6.1), II

UN-No.(DOT) : UN1230

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Proper Shipping Name (DOT) : Methanol

methanol; aniline; nitrobenzene; benzene; toluene; 1,2-dichlorobenzene; chlorobenzene; o-

toluidine; 2-nitrotoluene; 4-nitrotoluene

Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT) : II - Medium Danger

Subsidiary risk (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

Hazard labels (DOT) : 3 - Flammable liquid

6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202 DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group,I - Proper

shipping name appropriate for international and domestic transportation

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110

kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Quantity Limitations Passenger aircraft/rail : 1 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Emergency Response Guide (ERG) Number : 131

Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 1230 METHANOL (methanol; aniline; nitrobenzene; benzene; toluene; 1,2-

dichlorobenzene ; chlorobenzene ; o-toluidine ; 2-nitrotoluene ; 4-nitrotoluene), 3 (6.1), II (12°C

c.c.)

UN-No. (IMDG) : 1230

Proper Shipping Name (IMDG) : METHANOL

Class (IMDG) : 3 - Flammable liquids

Packing group (IMDG) : II - substances presenting medium danger

Subsidiary risks (IMDG) : 6.1 - Toxic substances

Limited quantities (IMDG) : 1 L

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Air transport

Transport document description (IATA) : UN 1230 Methanol (methanol ; aniline ; nitrobenzene ; benzene ; toluene ; 1,2-dichlorobenzene

; chlorobenzene; o-toluidine; 2-nitrotoluene; 4-nitrotoluene), 3 (6.1), II

UN-No. (IATA) : 1230
Proper Shipping Name (IATA) : Methanol

Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : II - Medium Danger
Subsidiary hazards (IATA) : 6.1 - Toxic substances

SECTION 15: Regulatory information

15.1. US Federal regulations

benzene (71-43-2)		
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State	ices Control Act) inventory s SARA Section 313	
Listed on EPA Hazardous Air Pollutant (HAPS)		
CERCLA RQ	10 lb	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard	
toluene (108-88-3)		
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State		
Listed on EPA Hazardous Air Pollutant (HAPS)		
CERCLA RQ	1000 lb	
chlorobenzene (108-90-7)		
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State		
Listed on EPA Hazardous Air Pollutant (HAPS)		
CERCLA RQ	100 lb	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard	
aniline (62-53-3)		
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State		
Listed on EPA Hazardous Air Pollutant (HAPS)		
CERCLA RQ	RQ 5000 lb	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb	
1,2-dichlorobenzene (95-50-1)		
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State	ices Control Act) inventory s SARA Section 313	
CERCLA RQ	RCLA RQ 100 lb	
o-toluidine (95-53-4)		
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State		
Listed on EPA Hazardous Air Pollutant (HAPS)		
ERCLA RQ 100 lb		

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nitrobenzene (98-95-3)			
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State			
Listed on EPA Hazardous Air Pollutant (HAPS)			
CERCLA RQ	1000 lb		
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb		
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb		
2-nitrotoluene (88-72-2)			
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313			
CERCLA RQ	CLA RQ 1000 lb		
4-nitrotoluene (99-99-0)			
Listed on the United States TSCA (Toxic Substar Not subject to reporting requirements of the United			
CERCLA RQ	1000 lb		
methanol (67-56-1)			
Listed on the United States TSCA (Toxic Substar Subject to reporting requirements of United State	,		
Listed on EPA Hazardous Air Pollutant (HAPS)			
CERCLA RQ	5000 lb		

15.2. International regulations

CANADA

benzene ((71-43-2)

Listed on the Canadian DSL (Domestic Substances List)

toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

chlorobenzene (108-90-7)

Listed on the Canadian DSL (Domestic Substances List)

aniline (62-53-3)

Listed on the Canadian DSL (Domestic Substances List)

1,2-dichlorobenzene (95-50-1)

Listed on the Canadian DSL (Domestic Substances List)

o-toluidine (95-53-4)

Listed on the Canadian DSL (Domestic Substances List)

nitrobenzene (98-95-3)

Listed on the Canadian DSL (Domestic Substances List)

2-nitrotoluene (88-72-2)

Listed on the Canadian DSL (Domestic Substances List)

4-nitrotoluene (99-99-0)

Listed on the Canadian DSL (Domestic Substances List)

methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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benzene (71-43-2)

Listed on IARC (International Agency for Research on Cancer)

Listed as carcinogen on NTP (National Toxicology Program)

Listed on EPA Hazardous Air Pollutant (HAPS)

toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

chlorobenzene (108-90-7)

Listed on EPA Hazardous Air Pollutant (HAPS)

aniline (62-53-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

o-toluidine (95-53-4)

Listed on IARC (International Agency for Research on Cancer)

Listed as carcinogen on NTP (National Toxicology Program)

Listed on EPA Hazardous Air Pollutant (HAPS)

nitrobenzene (98-95-3)

Listed on IARC (International Agency for Research on Cancer)

Listed as carcinogen on NTP (National Toxicology Program)

Listed on EPA Hazardous Air Pollutant (HAPS)

2-nitrotoluene (88-72-2)

Listed on IARC (International Agency for Research on Cancer)

Listed as carcinogen on NTP (National Toxicology Program)

methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

15.3. US State regulations

benzene (71-43-	2)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	No	Yes	6.4 μg/day	
toluene (108-88-	-3)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		7000 μg/day
aniline (62-53-3)					
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	100 μg/day	
o-toluidine (95-5	53-4)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	4 μg/day	

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nitrobenzene (9	8-95-3)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	Yes		
2-nitrotoluene (88-72-2)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		
methanol (67-56	S-1)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		47000 μg/day (inhalation); 23,000 μg/day (oral)

SECTION 16: Other information

Revision date : 11/12/2019
Other information : None.

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H301	Toxic if swallowed
H311	Toxic in contact with skin
H340	May cause genetic defects
H350	May cause cancer
H370	Causes damage to organs
H372	Causes damage to organs through prolonged or repeated exposure

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