MATERIAL SAFETY DATA SHEET

DEAHEUNG CHEMICAL CO., LTD. www.dhcbond.com

PGM

Product Name	DW-35(A)

1. Product and Company Identification

A. Product Name: DW-35(A)

B. Recommended use of the chemical and restrictions on use

- Recommended use of the chemical: bonding for the PVC sheet and film to wood and plastic, hard board, wood based materials, resin felt, etc.
- Restrictions on use of the product: Don't use except for the original purpose.

C. Manufacturer/Supplier/Distributor Information

- Name: DAEHEUNG CHEMICAL CO., LTD.
- Address: 68, Sandan-ro 64beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea
- Emergency phone number: 82-31-668-1424

2. Hazards identification

A. Hazard·Risk Classification

Flammable Liquid : Category 2
Acute toxicity(inhalation) : Category 4
Skin corrosion / Irritation : Category 2
Serious eye damage / Lrritation : Category 2
Reproductive toxicity : Category 1A
Target Organ Toxicity (Single Exposure) : Category 1
Target Organ Toxicity (Single Exposure) : Category 3(Respiratory tract irritation)
Target Organ Toxicity (Single Exposure) : Category 3(Narcotic effects)
Target Organ Toxicity (Repeated Exposure) : Category 1
Aspiration hazard : category 1

B. Label elements including precautionary statements

- Symbol

- Signal Word: Danger
- Hazard·Risk Statement

H225 Highly flammable liquid and vapour
H304 May be fatal if swallowed and enters airways
H315 Causes skin irritation
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H360 May damage fertility or the unborn child

- Precautionary Statement

Prevention

P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233 Keep container tightly closed

Prevention	P240 Ground/bond container and receiving equipment
	P241 Use explosion-proof electrical/ventilating/light/…/equipment
	P242 Use only non-sparking tool
	P243 Take precautionary measures against static discharge
	P260 Do not breathe dust/fume/gas/mist/vapours/spray
	P261 Avoid breathing dust/fume/gas/mist/vapours/spray
	P264 Wash … thoroughly after handling
	P270 Do not eat, drink or smoke when using this product
	P271 Use only outdoors or in a well-ventilated area
	P280 Wear protective gloves/protective clothing/eye protection/face protection
	P281 Use personal protective equipment as required
Response	P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
	P302+352 IF ON SKIN : Wash with soap and water
	P303+P361+P353 IF ON SKIN (or hair) : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
	P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
	P305+351+338 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
	P307+311: IF exposed: Call a POISON CENTER or doctor/physician
	P308+P313 IF exposed or concerned : Get medical advice/attention
	P312 Call a POISON CENTER or doctor/physician if you feel unwell
	P314 Get Medical advice/attention if you feel unwell
	P331 Do NOT induce vomiting
	P332+313 If skin irritation occurs: Get medical advice/attention
	P337+313 If eye irritation persists get medical advice/attention
	P362 Take off contaminated clothing and wash before reuse
Storage	P403+233: Store in a well ventilated place. Keep container tightly closed
	P403+235: Store in a well ventilated place. Keep cool
	P405: Store locked up
Disposal	P501 Dispose of contents/container to …

C. Other Hazard·Risk which are not included in the classification criteria (e.g. dust explosion hazard)

	TOLUENE	METHYL ETHYL KETONE	POLYURETHANE
Health	2	1	N/A
Fire	3	3	N/A
Reactivity	0	0	N/A

3. Composition/Information on ingredients

Chemical Name	Other name	CAS number	Content(%)
TOLUENE	Methyl benzene	108-88-3	30~40
METHYL ETHYL KETONE	2-Butanone	67-64-1	40~50
POLYURETHANE	-	9009-54-5	10~20

4. First aid measures

A. Eye contact	IF IN EYES: Wash carefully with water for several minutes. Remove contact lenses, if possible. Easy to do.
	If eye irritation persists, Consult a physician if irritation persists.

B. Skin contact	Skin (or hair): Take off immediately all contaminated clothing or remove the Keep. Rinse skin with water / shower.
	If skin irritation occurs, obtain medical advice Keep.
	Take off immediately all contaminated clothing or remove the Keep.
	Wash skin with soap and water.
C. Inhalation	Do not induce vomiting.
	Excessive dust, or fumes when exposed to clean air removed by coughing or other symptoms and Seek medical attention if you have.
D. Ingestion	Seek immediate medical advice.
	Do not induce vomiting.
E. Indication of immediate medical attention and notes for physician	Medical personnel are aware of the material and to take precautions to protect.

5. Fire-Fighting measures

A. Suitable (and unsuitable) extinguishing media	Water spray, foam, dry powder
	When to do Fire-Fighting, use dry sand or earth.
B. hazards arising from the chemical (e.g. nature of any hazardous combustion products)	Highly flammable liquid and vapor.
	Vapors may form explosive mixtures with air.
	The steam explosion hazard at Indoor, outdoor, drain.
C. Special protective equipment and precautions for fire-fighters	In case of fire: Wear self-contained breathing apparatus.
	Cool tanks/drums with water spray/remove them into safety.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures	Use water spray/stream to protect personnel and to cool endangered containers.
	Remove product from area of fire.
	Wear suitable protective clothing, gloves and eye/face protection.
	Stop leak if safe to do so. Remove all sources of ignition.
	In case of fire: Wear selfcontained breathing apparatus.
	Evacuate unnecessary personnel. Remove all sources of ignition. Stop leak if safe to do so. Eliminate leaks immediately.
B. Environmental precautions and protective procedures	Avoid release to the environment
	Waterways, sewers, basements, and Prevent entry into confined spaces.
C. Methods and materials for containment and cleaning up	Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
	Collect in closed containers for disposal.
	Dispose of this material and its container to hazardous or special waste collection point.

7. Handling and storage

A. Precautions for safe handling	Do not handle until all safety precautions Read and understand all safety precautions.
	Wear suitable chemical resistant gloves, safety goggles, dust mask and other protective clothing.
	Use in the well-ventilated areas. Prevent build-up electrostatic charge(by grounding).
	Shower and eye bath. Keep away from acidic material.
	Be careful to high temperatures.
B. Conditions for safe storage (including any incompatibilities)	Store in its original container in a cool environment, keep away from heat, spark, and open flame. Ground containers during storage and transfer operations to avoid static spark.

B. Conditions for safe storage (including any incompatibilities)	Ideal storage temp. range fore ease of handling is 10 ~ 27℃ Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

8. Exposure controls & personal protection

A. Control parameters (e.g. occupational exposure limit values, biological limit values)

- Occupational exposure limit values

TOLUENE	TWA - 50ppm 188mg/m^3 STEL - 150ppm 560mg/m^3
MEK	TWA - 200ppm 590mg/m^3 STEL - 300ppm 885mg/m^3

- ACGIH limit values

TOLUENE	TWA 50 ppm
MEK	TWA 200 ppm STEL 300 ppm

- Biological limit values

MEK	2 mg/L

B. Appropriate engineering controls	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate ventilation.
C. Personal protective equipment	
- Respiratory protection	The filter class must be suitable for the maximum contaminant concentration(gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used! In case of fire: Wear self contained breathing apparatus.
- Eye protection	Wear eye protection/face protection.
- Hands protection	Wear proper chemical resistant gloves.
- Body protection	Wear proper Protective clothing.

9. Physical and chemical properties

A. Appearance	
Physical state	Viscous liquid
Color	Clear
B. Odour	Solvent
C. Odour threshold	No data available
D. pH	No data available
E. Melting point/freezing point	No data available
F. Initial boiling point and boiling range	68.7℃ / -
G. Flashing point	-9 ℃
H. Evaporation rate	No data available
I. Flammability(solid, gas)	No data available
J. Upper/lower flammability or explosive limits	16.86/4.47
K. Vapor pressure	96.42
L. Solubility	Insoluble in water
M. Vapor density	No data available
N. Relative density	0.85 ± 0.1
O Partition coefficient:n-octanol/water	No data available
P. Auto-ignition temperature	480 ℃
Q. Decomposition temperature	No data available
R. Viscosity	2,000~2,500 (20℃)
S. Formula mass	No data available

10. Stability and reactivity

A.Chemical stability and possibility of hazardous reactions	Stable under normal conditions.
B. Conditions to avoid	Keep away from heat/sparks/open flames/hot surfaces – No smoking
C. Incompatible materials	Flammable material
D. Hazardous decomposition products	CO, CO_2, nitrogen compounds, hazardous gas etc.

11. Toxicological information

A. Information on the likely routes of exposure	No data available
B. Health hazards information	
– Acute toxic	
Oral	
TOLUENE	LD50 2600 ㎎/㎏ Rat
MEK	LD50 2737 ㎎/㎏ Rat
Dermal	
TOLUENE	LD50 120000 ㎎/㎏ Rat
MEK	LD50 6480 ㎎/㎏ Rabbit
Inhalation	
TOLUENE	LC50 12.5 ㎎/ℓ 4 hr Rat
MEK	(Vapor)LC50 32 ㎎/ℓ 4 hr Mouse
– Skin corrosive/irritant	
TOLUENE	Skin – rabbit – Mild skin irritation
MEK	Skin – rabbit – skin irritation
– Serious eye damage/eye irritation	
TOLUENE	Eye irritation
MEK	Eye No irritation
– Respiratory sensitization	
– Skin sensitization	
TOLUENE	Negative (Guinea Pigs)
MEK	Negative (Guinea Pigs, Mouse)
– Carcinogenicity	
IARC	Group 3
ACGIH	A4

12. Ecological information

A. Aquatic and terrestrial ecotoxicity	
– Fish	
TOLUENE	LC50 24 ㎎/ℓ 96 hr Oncorhynchus mykiss
MEK	LC50 3220 ㎎/ℓ 96 hr Pimephales promelas
– Shellfish	
TOLUENE	EC50 11.5 ㎎/ℓ 48 hr Daphnia magna
MEK	EC50 5091 ㎎/ℓ 48 hr Daphnia magna
– Bird	No data available
MEK	EC50 > 500 ㎎/ℓ 96 hr Skeletonema costatum
B. Persistence and degradability	
– Persistence	
TOLUENE	log Kow 2.73
MEK	log Kow 0.29

C. Bioaccumulative potential

- Concentrated Castle: No data available
- Biodegradable

TOLUENE	86 (%) 20 day
MEK	89 (%) 20 day

D. Mobility in soil: No data available

13. Disposal considerations

A. Disposal method: Destroy the product by incineration

B. Disposal precaution: Destroy the product by incineration

14. Transport information

A. UN number: 1133

B. UN proper shipping name: ADHESIVES containing flammable liquid

C. Transport hazard class: 3

D. Packing group (if applicable): II

E. Marin pollution (yes/no): Yes

F. Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises:

F-E, S-D

15. Regulatory information

A. Industrial Safety and Health Act: Article 39 (Management, etc. of Harmful Agents)
Article 41 (Preparation, Keeping, etc. of Material Safety Data Sheet)

B. Toxic Chemical Control Act: Not Applicable.

C. Dangerous Material Safety Control Act

TOLUENE	The 4th type, the 1st petroleum type 200ℓ
MEK	The 4th type, the 1st petroleum type 200ℓ

D. Wastes Management Act: Designated Wastes

E. Other requirements in domestic and other countries

- Domestic: Not Applicable.
- Other countries

CERCLA

TOLUENE	453.599 kg 1000 lb
MEK	2267.995 kg 5000 lb

EU regulations

TOLUENE	F; R11Repr.Cat.3; R63Xn; R48/20-65Xi; R38R67
MEK	F; R11Xi; R36R66R67

EU regulations

TOLUENE	R11, R38, R48/20, R63, R65, R67
MEK	R11, R36, R66, R67

EU regulations

TOLUENE	S2, S36/37, S46, S62
MEK	S2, S9, S16

16. Other information

A. Information source and references

TOLUENE

5(Oral)

6(Dermal)

5(Inhalation)

3(Persistence)

(1) ICSC (2004)(2) Merck (13th, 2001)(3) HSDB (2005)(4) SRC:KowWin (2005)(5) EU-RAR No.30 (2003)(6) ACGIH (7th; 2001)(7) IARC (2007)(8) ACGIH (2006)(9) EPA (2005)(10) EHC 52 (1986)(11) IARC 71 (1999)(12) ATSDR (2000)(13) IRIS (2005)(14) IARC 47 (1989)(15) CERI 하자드 데이터집 96-4 (1997)

METHYL ETHYL KETONE

RTECS(Oral)

RTECS(Dermal)

RTECS(Inhalation)

IUCLID(Skin corrosion / Irritation)

ECOTOX(Fish)

ECOTOX(Shellfish)

ECOTOX(Bird)

ICSC(Persistence)

IUCLID(Biodegradable)

Source of data : Korea Occupational Safety and Health Agency (KOSHA)>

B. Issuing date April 6, 2015

C. Revision number and date 0

D. others

MATERIAL SAFETY DATA SHEET

DEAHEUNG CHEMICAL CO., LTD. www.dhcbond.com

PGM

Product Name	DW-35(B)

1. Product and Company Identification

A. Product Name: DW-35(B)

B. Recommended use of the chemical and restrictions on use

- Recommended use of the chemical: Polyurethane resin, Additive
- Restrictions on use of the product: Don't use except for the original purpose.

C. Manufacturer/Supplier/Distributor Information

- Name: DAEHEUNG CHEMICAL CO., LTD.
- Address: 68, Sandan-ro 64beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea
- Emergency phone number: 82-31-668-1424

2. Hazards identification

A. Hazard·Risk Classification: Flammable liquid : Category 2

Serious eye damage / Lrritation : Category 2A

Target Organ Toxicity (Single Exposure) : Category 3(May cause drowsiness or dizziness.)

B. Label elements including precautionary statements

- Symbol

- Signal Word: Danger
- Hazard·Risk Statement: H225 Highly flammable liquid and vapour

H319 Causes serious eye irritation

H336 May cause drowsiness or dizziness

- Precautionary Statement

Prevention: P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

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

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: P405 Store locked up

Disposal: P501 Dispose of contents/container to …

C. Other Hazard·Risk which are not included in the classification criteria (e.g. dust explosion hazard)

- NFPA: Health = 2

Fire = 3

Reactivity = 0

- HMIS: Health = 1

Fire = 3

Reactivity = 0

3. Composition/Information on ingredients

Chemical Name	Other name	CAS number	Content(%)
Butanone	-	78-93-3	> 20%

4. First aid measures

A. General information	Take affected persons out of danger area and lay down.
B. After skin contact:	Immediately wash with water and soap and rinse thoroughly.
	If skin irritation continues, consult a doctor.
C. After eye contact	Rinse opened eye for several minutes under running water.
	Remove contact lenses, if present and easy to do. Continue rinsing.
	Seek medical treatment.
D. After inhalation	Supply fresh air; consult doctor in case of complaints.
	Excessive dust, or fumes when exposed to clean air removed by coughing or other symptoms and Seek medical attention if you have.
E. After swallowing	Rinse out mouth and then drink plenty of water.
	If symptoms persist consult doctor.
F. Most important symptoms and effects, both acute and delayed	No further relevant information available.
G. Indication of any immediate medical attention and special treatment needed	No further relevant information available.

5. Fire-Fighting measures

A. Suitable (and unsuitable) extinguishing media	CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
	CO2, sand, extinguishing powder. Do not use water.
	Use fire fighting measures that suit the environment.
B. For safety reasons unsuitable extinguishing agents	Water with full jet
C. Special hazards arising from the substance or mixture	Formation of toxic gases is possible during heating or in case of fire.
	In case of fire, the following can be released: Carbon monoxide, Carbon dioxide, Aldehyde, Isocyanate
D. Protective equipment	Wear self-contained respiratory protective device.
E. Additional information	Cool endangered receptacles with water spray.
	Collect contaminated fire fighting water separately. It must not enter the sewage system.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation
	Wear protective equipment. Keep unprotected persons away.
	Keep away from ignition sources
B. Environmental precautions and protective procedures	Do not allow to enter sewers/ surface or ground water.
C. Methods and materials for containment and cleaning up	Ensure adequate ventilation.
	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
	Do not flush with water or aqueous cleansing agents
	Dispose of the collected material according to regulations.
D. 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

A. Precautions for safe handling	Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.
B. Information about protection against explosions and fires	Keep ignition sources away – Do not smoke.
C. Conditions for safe storage (including any incompatibilities)	Store only in the original receptacle. Store away from oxidizing agents. Store in cool, dry conditions in well sealed receptacles.
D. Specific end use(s	No further relevant information available.

8. Exposure controls & personal protection

A. Control parameters (e.g. occupational exposure limit values, biological limit values)

– Components with limit values that require monitoring at the workplace

butanone	PEL 590 mg/m³, 200 ppm REL Short-term value: 885 mg/m³, 300 ppm Long-term value: 590 mg/m³, 200 ppm TLV Short-term value: 885 mg/m³, 300 ppm Long-term value: 590 mg/m³, 200 ppm BEI

– Ingredients with biological limit values

butanone	BEI 2 mg/L Medium: urine Time: end of shift Parameter: MEK

C. Personal protective equipment

– General protective and hygienic measures	Do not eat, drink, smoke or sniff while working. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Avoid contact with the eyes and skin. The usual precautionary measures for handling chemicals should be followed.
– Breathing equipment	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	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	Butyl rubber, BR Nitrile rubber, NBR PVC gloves
– 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.
– 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	Tightly sealed goggles
– Body protection	Protective work clothing

9. Physical and chemical properties

A. Appearance	
Physical state	Highly viscous
Color	Light yellow / Transparent
B. Odour	Mild / Like ketone
C. Odour threshold	Not determined.
D. pH	Not determined.
E. Melting point/Melting range	Not determined.
F. Boiling point/Boiling range	Not determined.
G. Flashing point	-5 °C (23 °F)
H. Evaporation rate	Not determined.
I. Flammability(solid, gas)	Not applicable.
J. Upper/lower flammability or explosive limits	Not determined.
K. Vapor pressure	Not determined.
L. Solubility	Not miscible or difficult to mix.
M. Vapor density	Not determined.
N. Relative density	Not determined.
O. Partition coefficient:n-octanol/water	Not determined.
P. Auto-ignition	Product is not selfigniting.
Q. Viscosity	2500-5500 cps
R. Danger of explosion	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
S. Density	Not determined.
P. Solvent content	Organic solvents: 24-26 % / VOC content: 25.0 %

10. Stability and reactivity

A. Reactivity	No further relevant information available.
B.Chemical stability	No decomposition if used and stored according to specifications.
C. Thermal decomposition / conditions to be avoided	No decomposition if used according to specifications.
D. Possibility of hazardous reactions	No dangerous reactions known.
E. Conditions to avoid	No further relevant information available.
F. Incompatible materials	No further relevant information available.
G. Hazardous decomposition products	No dangerous decomposition products known.

11. Toxicological information

A. Information on toxicological effects	
- Acute toxic	
Oral	LD50 2737 mg/kg (Rat)
Dermal	LD50 6480 mg/kg (Rabbit)
Inhalation	LC50 38 mg/L (Mammal - unspecified) LC50 (4h) 32 mg/L (Mouse) 11.7 mg/L (Rat)
Dermal	
B. Primary irritant effect	
- on the skin	No irritant effect.
- on the eye	Irritating effect.
C. Sensitization	No sensitizing effects known.

D. Additional toxicological information	The product shows the following dangers according to internally approved calculation methods for preparations: Irritant
E. Carcinogenic categories	IARC (International Agency for Research on Cancer) : 3 NTP (National Toxicology Program) : None of the ingredients is listed.

12. Ecological information

A. Aquatic toxicity	No further relevant information available.
B. Persistence and degradability	No further relevant information available.
C. Bioaccumulative potential	No further relevant information available.
D. Mobility in soil	No further relevant information available.
E. Additional ecological information	
- General notes	Water hazard class 1 (Self-assessment): slightly hazardous for water Do not allow product to reach ground water, water course or sewage system.
F. Results of PBT and vPvB assessment	PBT: Not determined vPvB: Not determined
G. Other adverse effects	No further relevant information available.

13. Disposal considerations

A. Waste treatment methods	Must be specially treated adhering to official regulations.
B. Uncleaned packagings	Disposal must be made according to official regulations.

14. Transport information

A. UN number	1993
B. UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
C. Transport hazard class:	IMDG Class : 3 Flammable liquids.
D. Packing group	II
E. Environmental hazards	Marine pollutant : No
F. Special precautions for user	Warning: Flammable liquids Danger code (Kemler): 33 EMS Number: F-E,S-E

15. Regulatory information

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

- Section 355 (extremely hazardous substances)	None of the ingredients is listed.
- Section 313 (Specific toxic chemical listings)	78-93-3 butanone
- TSCA (Toxic Substances Control Act)	78-93-3 butanone

B. 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.

C. Cancerogenity categories	
- EPA (Environmental Protection Agency)	78-93-3 butanone : 1
- TLV (Threshold Limit Value established by ACGIH)	None of the ingredients is listed.
- NIOSH-Ca (National Institute for Occupational Safety and Health)	None of the ingredients is listed.
- OSHA-Ca (Occupational Safety & Health Administration)	None of the ingredients is listed.
D. 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.

A. Issuing date	April 6, 2015
C. Abbreviations and acronyms	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists 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