HNS MARITIME SAFETY DATA SHEET **FILE NO.:** 004 **DATE:** 09/03/2011

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

KEY POINTS

- Clouorless gas with fish-like odour. Heavier than air.
- Flammable. Reactive with acids, oxidisers and nitromethane exothermically. Corrosive to copper, zinc, aluminium and galvanised materials.
- Corrosive, toxic, harmful and irritant.
- Minor exposures (10 - 100 ppm) may result in transient mucous irritation. Moderate exposure may cause severe irritation. Liquid gas and solutions may burn skin and eyes on contact.
- Exposure to high concentrations may be **fatal**.
- Chronic effects may include respiratory damage, vision impairment and liver damage,
- There is no evidence to suggest that methylamine is a human carcinogen.

HUMAN HEALTH EXPOSURE ROUTES See Section 3

- Inhalation and eye most likely exposure routes.
- Contact with liquefied gas can cause frostbite
- Lung or eye irritation may occur following short-term exposure.
- Contact with solutions may cause burns.

FIRE See Section 8

- Highly flammable.
- Heavier than air - accumulates
- May generate nitrogen oxides
- Leaking containers may explode
- protective clothing and breathing apparatus

ENVIRONMENT See section 11

- Non persistent, volatile.
- Does not bioaccumulate.
- Harmful to vegetation

MARITIME TRANSPORT

- Transported as liquefied gas or solutions

REACTIVITY WITH SEA WATER

- Dissolves in water and may form alkaline solutions.

INCIDENT MANAGEMENT

- **Alert Emergency Services.**
- **Non-essential personnel should move at least 100 m away from the incident.**
- **There may be a public safety hazard outside the immediate area of the incident (See Table 1). Consider evacuation/shelter and set up of emergency rest centres for evacuees.**
- **Initiate real-time ambient monitoring, for use with meteorological and marine forecasts.**
- **Emergency department staff treating chemically contaminated casualties should be equipped with approved, gas-tight decontamination suits and breathing apparatus. Ventillate enclosed spaces.**
- **Secondary contamination possible from exposure to solutions / liquid methylamine.**
- **Decontamination run-off should be prevented from entering drains and watercourses. Bag clothing.**
- **Risk Communication strategy to advise members of the public on evacuation/sheltering**
- **Post-incident epedemiology / follow-up. Medical referrals.**
- **Methylamine in urine is potential biomarker of exposure.**

Summary Page

HNS MARITIME SAFETY DATA SHEET **FILE NO.:** 004 **DATE:** 09/03/2010

METHYL AMINE GAS DISSOLVER

HUMAN HEALTH CONSIDERATIONS – See Section 3 to 6

ERG 2008 Table 1: Initial isolation and protective action distances

Chemical Name	Spill Size	Definition	Isolation Zone in all directions	DownWind Protection Zone	
				If Fire	No Fire
Methylamine	**Raw Gas**	Flammable Gas.	100	800	1600 All directions
	Aqueous Solution	Flammable Liquid.	50	800	800 All directions

Isolation Distance: All personnel to be directed in a cross wind direction this distance from the spill

Protective Action Zone: A square area down wind of the spill where protective action should be considered, starting with nearest receptors and working away from spill.

Such estimates should always be regarded with reservations and never be alternatives for monitoring.

Acute Health Hazards

ppm	mg m^{-3}	Signs and symptoms
0 - 10	0 – 12.7	No observed effect
5 - 25	6.4 – 32	Slight visual disturbance
10 - 100	12.7 - 127	Transient mucous membrane irritation
100	127	Immediately dangerous to life or health (NIOSH)

Monitoring Strategy (Short & Long Term) & Equipment – See Section 6

Health and Safety	**Air** - Real-time photionisation detection or quantitative colour change tubes (Draeger or similar). **Monitors MUST be intrinsically safe / ATEX compliant.** Monitor Oxygen in confined spaces
Environmental	Atmospheric fate and transport e.g. Aloha (immediate risk / first response), Calpuff (longer term)
Public Health	GP referrals, hospital admissions – numbers, symptomology, follow-up studies. (See Biomarkers)

OPERATIONAL EMERGENCY RESPONSE – See Section 8 & 9

Fire fighting measures:	Use fine water spray for gas clouds. Use water to cool tanks, cylinders etc. Use CO_2 or foam against small fires. May form toxic gases during combustion - Nitrogen Oxides
Decontamination of responders	Decontamination should be performed using local protocols in designated areas with adequate ventilation. Water should be contained and disposed of at an appropriate waste facility.
Response & Clean up:	Decontamination run-off should be prevented from entering drains and watercourses.Ventilate confined spaces. Absorb liquids and dispose accordingly.
Waste Management	Dispose as hazardous waste. Methylamine gas is volatile and non persistent. Solutions will be biodegraded in the environment. Controlled incineration is suitable for contaminated materials..

EMERGENCY CONTACTS

ORGANISATION	TELEPHONE
FIRE, AMBULANCE, POLICE	**999**
HEALTH PROTECTION AGENCY: Chemical Hazards Unit	**08448 920555**
ENVIRONMENT AGENCY: 24/7 Pollution	**0800 807060**

Summary Page

HNS MARITIME SAFETY DATA SHEET

FILE NO.: 004 **DATE:** 09/03/2011

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 1: IDENTIFICATION

NAME:	**METHYLAMINE**		**CHEMICAL FORMULA:**	CH_3NH_2	
SYNONYMS:	**MMA, Methanamine, Aminomethane**				
CAS No:	**74-89-5**	**UN No:**	**1061***	**EINECS :**	**200-820-0**

CLASSIFICATIONS	**T** – Toxic, **Xn** – Harmful, **F+** – Extremely Flammable, **C -** Corrosive
RISK PHRASES	**R12** Extremely Flammable **R20** Toxic by inhalation **R34** Causes burns **R37/38** Irritating to eyes, respiratory system and skin **R41** Risk of serious damage to eyes
SAFETY PHRASES	**S9** In case of accident or if you feel unwell seek medical advice immediately. Dispose of as hazardous waste **S16** Avoid exposure - obtain special instructions before use. **S26** Avoid exposure - obtain special instructions before use. **S36** Avoid exposure - obtain special instructions before use. **S39** Avoid exposure - obtain special instructions before use.

USES:

Primary uses in manufacture of pharmaceuticals, household cleaners, pesticides and solvents.

Trade data for ethylene oxide indicate annual production capacity in the UK in 2007 in the order of 15,000 tonnes of methylamines including di and tri derivatives and in the order of 40,000 tonnes for US 2005 trade data. Methylamine is typically transported in pressurized cylinders or tanks. The gas condenses at temperatures below -6^{o}C.

(UN NO for aqueous solution – 1235)

SECTION 2: PHYSICAL CHEMICAL PROPERTIES

SEBC CLASSIFICATION	**G D GAS DISSOLVER**	**BOILING POINT**	-6.3 deg C
APPEARANCE	Colourless gas	**VAPOUR PRESSURE**	353 kPa at 20 ℃
ODOUR	Fish-like (ammonia >100ppm)	**SPECIFIC GRAVITY**(air = 1):	1.08 at 20 ℃
FLAMMABILITY	Extremely Flammable	**SOLUBILITY IN WATER**	Soluble (will evaporate from water)
STABILITY & REACTIVITY	Reacts violently with acids, oxidizing agents and nitromethane. Corrosive to some copper, zinc, aluminium and galvanized materials. Aqueous solutions are basic. Aqueous oxidation may form azoxymethane which is a mammalian carcinogen.		

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 3: HUMAN HEALTH HAZARDS

Following exposure to any chemical, the adverse health effects you may encounter depend on several factors, including the amount to which you are exposed (dose), the way you are exposed, the duration of exposure, the form of the chemical and if you were exposed to any other chemicals.

ROUTES OF ENTRY:
Inhalation exposure is most likely due to its gaseous nature.

POTENTIAL HEALTH EFFECTS

INHALATION	Methylamine is a respiratory tract irritant; effects including coughing, irritation to nose, and dyspnoea. High concentrations may lead to pulmonary oedema and chemical pneumonitis.
EYES	Highly irritating to eyes. Liquid methylamine or high concentrations may cause burns and conjuctivitis. Vaporising liquid methylamine may cause frostbite injury.
SKIN	Highly irritating to skin. Liquid methylamine or strong solutions may cause burns. Vaporising liquid methylamine may cause frostbite injury.
INGESTION	Ingestion may lead to corrosive injuries..

ACUTE HEALTH HAZARDS AND INDICATIVE CONCENTRATIONS FOR EFFECT:

ppm	**mg m^{-3}**	**Signs and symptoms**
0 - 10	0 – 12.7	No observed effect
5 - 25	6.4 – 32	Slight visual disturbance
10 - 100	12.7 - 127	Transient mucous membrane irritation
100	127	Immediately dangerous to life or health (NIOSH)

CHRONIC HEALTH HAZARDS:
For most exposed individuals symptoms will clear over several weeks or months. Survivors of severe inhalation injury, especially if chest x-ray and pulmonary function abnormalities are associated, may suffer residual chronic lung disease. In cases of eye contact with liquid aliphatic amines, permanent damage and impairment of vision can result.

CARCINOGENICITY
Methylamine is not considered to be a human carcinogen.

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061
T – Toxic, Xn – Harmful, C - Corrosive
F+ - Extremely Flammable
R12 R20, R34 R37/38, R41
S9, S16, S26, S36, S39

SECTION 4: EXPOSURE GUIDELINES AND STANDARDS

ODOUR THRESHOLD: 0.56 ppm (0.71 mg m^{-3})

EU AIR QUALITY GUIDELINE: No guideline value specified
(UK Environmental Assessment Levels (DEFRA)) *130 µg m^{-3} Long term, 3900 µg m^{-3} Short term*

DRINKING WATER QUALITY GUIDELINE 0.1 µg L^{-1}
(UK Pesticide Maximum Limit)

WORKPLACE EXPOSURE LIMITS 10 ppm (12.7 mg m^{-3}) (8 hour reference period)
(NIOSH)

Emergency Response Planning Guideline (ERPG) Values
(American Industrial Hygiene Association)

	Listed value (ppm)	Calculated value (mg m^{-3})
ERPG-1*	10	12.7
ERPG-2*	100	127
ERPG-3*	500	635

* *Maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hr without experiencing other than mild transient adverse health effects or perceiving objectionable odour.*

** *Maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hr without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action.*

*** *Maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hr without experiencing or developing life-threatening health effects.*

Acute Exposure Guideline Levels (AEGLs) (Interim) (U.S. Environmental Protection Agency)

	ppm				
	10 min	**30 min**	**60 min**	**4 hr**	**8 hr**
AEGL-1†	15	15	15	15	15
AEGL-2††	160	92	64	31	21
AEGL-3†††	910	510	350	170	110

† *The level of the chemical in air at or above which the general population could experience notable discomfort.*

†† *The level of the chemical in air at or above which there may be irreversible or other serious longlasting effects or impaired ability to escape.*

††† *The level of the chemical in air at or above which the general population could experience lifethreatening health effects or death.*

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 5: EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROLS:

Use fine water spray.

Remove all ignition sources

Use foam or CO_2 on small spills.

Spillages and decontamination run-off should be prevented from entering drains and watercourses.

PERSONAL PROTECTIVE EQUIPMENT

EMERGENCY ACTION CODE	EAC 2PE or l2WE for solution
RESPIRATORY PROTECTION	to 100 ppm - Full face canister respirator APF = 50 *(BS EN 137)* or self contained breathing apparatus. Otherwise full face self contained or air fed breathing apparatus APF = 10,
EYE PROTECTION	Full face respirator.
SKIN PROTECTION	Liquid-tight chemical protective clothing *(BS 8428)*
EMERGENCY RESPONDERS	Ambulance staff, paramedics and emergency department staff treating chemically contaminated casualties should be equipped with approved, gas-tight decontamination suits based on EN466:1995, EN12941:1998 and prEN943-1:2001, where appropriate with breathing apparatus*(BS EN 137).*
OTHER PROTECTIVE CLOTHING OR EQUIPMENT	**APP A(fg)** Flammable gas or APP A(fl) Flammable liquid for solutions

WORK HYGIENIC PRACTICES:

Methylamine is a volatile gas and secondary contamination is unlikely, from exposure solely to the gas. However exposure to liquefied chemical or solutions can lead to off-gassing and secondary contamination particularly from contaminated clothing.

DECONTAMINATION OF RESPONDERS:

Decontamination should be performed using local protocols in designated areas such as a decontamination cubicle with adequate ventilation. Wash skin with water for at least 20 minutes.

NON ESSENTIAL PERSONNEL / PUBLIC

There may be a public safety hazard outside the immediate area of the incident. People should stay indoors with windows and doors closed, ignition sources should be eliminated and ventilation stopped. Non-essential personnel should move at least 100 m away from the incident (50 m for methylamine solutions).

Risk communication via news media as well as internet / telephone advice lines should be initiated to inform local residents / public based upon forecast data or Table 1 estimates.

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 6: MONITORING AND DETECTION

HEALTH AND SAFETY

- Use real-time gas sensors (Photoionisation detector) and / or quantitative colour change tubes such as Draeger tubes.
  Monitors MUST be intrinsically safe / ATEX compliant.
- Note PID is non compound specific so will detect other volatile contaminants in addition to ammonia.
- Methylamine is heavier than air so may accumulate in poorly ventilated areas, voids and other confined spaces. Monitor for asphyxiant (oxygen depletion) and toxic / expolsive atmospheres before entering confined spaces.
- Use colorimetric quantitative kits or electrochemical probes for aqueous liquids.

ENVIRONMENTAL HEALTH

- Methylamine degrades in the atmosphere and is biodegraded in soil and water environments.
- Fire and explosion may lead to particulates and toxic gases, principally nitrogen oxides.
- Use monitoring data, marine and meteorological data to predict gas cloud / smoke plume movement using appropriate modeling software e.g. Aloha (immediate risk / first response), CALPUFF (longer term).

In the absence of data refer to Table 1 below for potential isolation and protective distances

Chemical Name	Spill Size	Definition	Isolation Zone in all directions	DownWind Protection Zone	
				If Fire	No Fire
Methylamine	**Raw Gas**	Flammable Gas.	100	800	1600 All directions
	Aqueous Solution	Flammable Liquid.	50	800	800 All directions

Isolation Distance: All personnel to be directed in a cross wind direction this distance from the spill

Protective Action Zone: A square area down wind of the spill where protective action should be considered, starting with nearest receptors and working away from spill.

Such estimates should always be regarded with reservations and never be alternatives for monitoring.

These estimates can also be applied to liquid chemicals which are flammable and/or hazardous for health.

PUBLIC HEALTH FOLLOW-UP EPIDEMIOLOGY &

- Collate GP referrals, hospital admissions – numbers, symptomology, age, sex, pre-existing conditions
- Methylamine in urine is potential biomarker of exposure.
- Follow-up studies where public health may have been impacted (see chronic effects Section 3)

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 7: FIRST AID MEASURES

Important Notes

Ambulance staff, paramedics and emergency department staff treating chemicallycontaminated casualties should be equipped with Department of Health approved, gas-tight decontamination suits based on EN466:1995, EN12941:1998 and prEN943-1:2001, where appropriate.

Decontamination should be performed using local protocols in designated areas such as a decontamination cubicle with adequate ventilation. Water should be contained and disposed of at an appropriate waste facility.

Methylamine is a volatile gas and secondary contamination from patients only exposed to the gas is very unlikely. In contrast persons exposed to liquefied gas or solutions of the gas may pose secondary contamination risks from off-gassing, particularly if clothing has been contaminated. In this case patients should be decontaminated at the scene and clothing bagged and washed or disposed of. Clothing will be flammable risk.

Inhalation

- Remove patient from exposure.
- Ensure a clear airway and adequate ventilation.
- Give oxygen to patients with respiratory symptoms.
- Where the face is contaminated DO NOT attempt expired air resuscitation unless an airway with rescuer protection is used.
- Apply other supportive measures as indicated by the patient's clinical condition.
- Apply systematic management for serious exposure.

Dermal exposure

- Remove patient from exposure.
- The patient should remove all clothing and personal effects.
- Double-bag soiled clothing and place in a sealed container clearly labelled and away from personel.
- Wash with copious amounts of water.
- Decontaminate open wounds first and avoid contamination of unexposed skin.
- Pay special attention to skin folds, axillae, ears, fingernails, genital areas and feet.
- An emollient may be needed to treat burns, which usually heal within 21 days.
- Apply systematic management for serious exposure.

Ocular exposure

- Remove patient from exposure.
- Irrigate thoroughly with saline for at least 30 minutes
- Apply systematic management for serious exposure.

Systemic Management

- Symptomatic and supportive care

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 8: FIRE FIGHTING MEASURES

Reacts violently with acids, oxidizing agents and nitromethane.

FLAMMABILITY: Gas is extremely flammable.

LOWER EXPLOSIVE LIMIT: 4.9%

UPPER EXPLOSIVE LIMIT: 20.7%

EXTINGUISHING MEDIA: Use water to cool tanks, cylinders etc. Use fine water spray for gas clouds. Use CO_2 or foam against small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Remove all sources of ignition.Gas will collect in voids and low points. Contain extinguishing materials and run-off.

HAZARDOUS DECOMPOSITION PRODUCTS: May form toxic gases during combustion - Nitrogen Oxides

SECTION 9: RECOVERY RESPONSE AND CLEAN-UP

Special precautions: Corrosive to some copper, zinc, aluminium and galvanized materials. Aqueous solutions are basic.

INCIDENT MANAGEMENT& RESPONSE
• Use fine water spray to control migration of vapors. • Prevent decontamination run-off entering drains and sensitive water-courses. • There may be a public safety hazard outside the immediate area of the incident. People should stay indoors with windows and doors closed, ignition sources should be eliminated and ventilation stopped. • Non-essential personnel should move at least 100 m away from the incident.
CLEAN-UP/RECOVERY
• Thoroughly vent all voids, drains etc. • Absorb liquids in vermiculite, dry sand, earth, peat, carbon, or similar material and deposit in sealed containers. Alternatively, spread heavily with sodium bisulfate and sprinkle with water. Drain into a sewer with a large amount of water **ONLY IF** the sewer is designed to prevent the build up of explosive gas. • Methylamine is volatile, reactive and soluble in water. It will not persist in the environment or bioaccumulate. • Aqueous oxidation may form azoxymethane which is a mammalian carcinogen.

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 10: WASTE DISPOSAL

WASTE CATALOGUE CLASSIFICATION : Hazardous Waste H3, H6, H7, H8

WASTE DISPOSAL METHOD	Methylamine is volatile and non persistent. Dissolves in water to form basic solutions. Will evaporate from solution.
ENVIRONMENTAL	Methylamine is volatile and non persistent. Dissolves in water to form basic solutions. Decontamination run-off and extinguishing materials should be prevented from entering drains and watercourses unless treated as in Section 9, sewer is of suitable venting design and discharge has been permitted by regulator.
PATIENT CLOTHING	Double-bag soiled clothing and place in a sealed container clearly labelled and stored in well ventilated area prior to disposal.

Handling & Storage: Methylamine is typically stored as pressurised liquified gas, or aqueous solution. Storage tanks should be located away from sources of ignition and below 50℃ in a well ventilated place. Copper, zinc and other non-ferrous metals and alloys are corroded by methylamines and should be excluded from storage systems. Purge air from system before introducing gas. Nitrogen blanket may be used to reduce flammable risks.

Transport Information: IMDG Class 2.1. Packing Instruction P200, EmS FD,SU. (Methylamine solution Class 3) ADR / RID Regulations Class 2.1 Classification Code 2F. IATA Class 2.1. (Methylamine solution Class 3)

SECTION 11: ECOLOGICAL INFORMATION

Methylamine is reactive in air with a half-life in the order of 18 hours. It is biodegraded in soil and water and does not persist in the environment. It does not bioaccumulate. Methylamine can be phytotoxic

Toxicity Data:

Acute toxicity						
Species	**Age/Size**	**Bioassay conditions/analysed parameters**				**Reference**
		Temperature (℃)	**Salinity ‰**	**LC50 -48h**	**LC50 96h**	
Daphnia magna (Water flea)	-	-	-	24 - 180 mg/L		Toxnet HSDB
Catfish	-	-	-	0.28 mg/L		
Oryzias latipes (Medaka)	-	-	-		8.2 mg/L	

METHYL AMINE

GAS DISSOLVER

CAS No: 74-89-5 UN No:1061

T – Toxic, Xn – Harmful, C - Corrosive

F+ - Extremely Flammable

R12 R20, R34 R37/38, R41

S9, S16, S26, S36, S39

SECTION 12: CASE STUDY – MARITIME INCIDENT

No specific incidents recorded for methylamine, but several minor spills and leaks of amines reported in UK waters by MCGA. Details of impacts unknown. One larger incident involving amines is reported for the *Sam Houston* in the Gulf of Mexico in 1982. Again details of impact are not known.

SECTION 13: CASE STUDY – REPORTED PUBLIC HEALTH EFFECTS

No reported studies for maritime incidents.

Train Derailment near Dunsmuir, California, July 14 involving 19,000 gallons of metam sodium spilled into the Sacramento River. Reacted with water forming methylamine, methylisothiocyanate and hydrogen sulfide, all released as a gas cloud with reported odor and burning eyes over several miles. A review of emergency room records between July 15 and July 31 found a total of 252 visits, compared to 8 visits the first three weeks of August. The most common symptoms that occurred were nausea (51%), headache (44%), eye irritation (40%), throat irritation (26%), dizziness (23%), vomiting (22%), and shortness of breath (21%).In addition, workers who were brought in to clean up the spill in and near the river on July 21 and 22 developed unusual skin rashes on the feet and ankles. Later studies indicated residents affected by the spill showing a range of psychosocial impacts (Committee on Government Operations of the House of Representatives, One Hundred and Second Congress, First Session, October 3, 1991, Washington, DC: U.S. Government Printing Office, 1992.)

SECTION 14: SOURCES OF FURTHER INFORMATION

Emergency Response Guidebook	http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/ergmenu.aspx
TOXNET Hazardous Substances Database	http://toxnet.nlm.nih.gov/
European Chemical Industry Council	http://www.petrochemistry.net/ftp/pressroom/methylguid.pdf
CAMEO	http://cameochemicals.noaa.gov/
ALOHA	http://www.epa.gov/osweroe1/content/cameo/aloha.htm
CEDRE	http://www.cedre.fr/index-en.php
ARCOPOL	http://www.arcopol.eu/home.aspx
EMSA	http://www.emsa.europa.eu/
Storage	http://encyclopedia.airliquide.com/Encyclopedia.asp?GasID=2#MSDS