Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 02.07.2013 Revision: 28.10.2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Trade name ***Iodomethane, 2M solution in tert-butyl methylether***
Stock number: H32660
CAS Number: 74-88-4
EC number: 200-819-5
1.2 Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
Informing department: Product safety Tel + +049 (0) 7275 988687-0
1.4 Emergency telephone number: Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008


GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.


GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.


GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.


GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Xn; Harmful
R20/22-40: Harmful by inhalation and if swallowed. Limited evidence of a carcinogenic effect.
Xi; Irritant
R38: Irritating to skin.
F; Highly flammable
R11: Highly flammable.
Information concerning particular hazards for human and environment: Not applicable
Other hazards that do not result in classification No information known.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.
Hazard pictograms GHS02, GHS06, GHS08
Signal word Danger
Hazard statements H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H351 Suspected of causing cancer.
Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS# Designation: 74-88-4 Iodomethane, 2M solution in tert-butyl methylether
Identification number(s):
EC number: 200-819-5

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.
After skin contact Instantly wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.
After swallowing Seek medical treatment.

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4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents CO_2, sand, extinguishing powder. Do not use water.
5.2 Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Hydrogen iodide (HJ)
5.3 Advice for firefighters
Protective equipment: Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up: Keep away from ignition sources.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Prevention of secondary hazards: Keep away from ignition sources.
6.4 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 information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Keep containers tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires: Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: Refrigerate
Information about storage in one common storage facility: Store away from oxidizing agents.
Store in the dark.
Protect from heat.
Further information about storage conditions: Keep container tightly sealed.
Protect from the effects of light.
Refrigerate
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:

Iodomethane (Methyl iodide)

	ppm
ACGIH TLV	2 (skin)
Austria	Carcinogen (skin)
Belgium TWA	2; Carcinogen (skin)
Denmark TWA	1 (skin)
Finland TWA	5; 10-STEL (skin)
Germany	Carcinogen
Korea TLV	2 (skin)
Norway TWA	1
Netherlands MAC-TGG	10 mg/m3 (skin)
Poland TWA	10 mg/m3; 30 mg/m3-STEL
Sweden NGV	1; 5-KTV (skin), Carcinogen
Switzerland MAK-W	0.3 (skin), Carcinogen
United Kingdom TWA	2 (skin)
USA PEL	5(skin)

74-88-4 Iodomethane, 2M solution in tert-butyl methylether (100,0%)

MAK (TRGS 900) (Germany)	2 mg/m³, 0,3 ppm H; TRGS 901-38
PEL (USA)	28 mg/m³, 5 ppm Skin
REL (USA)	10 mg/m³, 2 ppm Skin; See Pocket Guide App. A
TLV (USA)	12 mg/m³, 2 ppm Skin

Additional information: No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.

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Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.
Protection of hands: Check protective gloves prior to each use for their proper condition.
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.
Material of gloves Impervious gloves
Penetration time of glove material Not determined
Eye protection: Safety glasses
Face protection
Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Smell: Not determined
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: 41-43 °C
Sublimation temperature / start: Not determined
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-inflammability: Not determined.
Critical values for explosion:
Lower: Not determined
Upper: Not determined
Steam pressure: Not determined
Density at 20 °C 0,933 g/cm³
Relative density Not determined.
Vapour density Not determined.
Evaporation rate Not determined.
Solubility in / Miscibility with
Water: Not determined
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
dynamic: Not determined.
kinematic: Not determined.
9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No information known.
10.2 Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions No dangerous reactions known
10.5 Incompatible materials: Oxidizing agents
Heat
Light
10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide
Hydrogen iodide (HI)

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: Harmful if inhaled.
Harmful if swallowed.

LD/LC50 values that are relevant for classification:

Oral	LD50	76 mg/kg (rat)

Skin irritation or corrosion: Causes skin irritation.
Eye irritation or corrosion: Irritant effect.
Sensitization: No sensitizing effect known.
Germ cell mutagenicity: No effects known.
Carcinogenicity: Suspected of causing cancer.
IARC-3: Not classifiable as to carcinogenicity to humans.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: No further relevant information available.
12.2 Persistence and degradability No further relevant information available.
12.3 Bioaccumulative potential No further relevant information available.
12.4 Mobility in soil No further relevant information available.
Additional ecological information:
General notes: Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Avoid transfer into the environment.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

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12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number
ADR, IMDG, IATA UN1992

14.2 UN proper shipping name
ADR 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (Iodomethane, 2M solution in tert-butyl methylether)
IMDG, IATA FLAMMABLE LIQUID, TOXIC, N.O.S. (Iodomethane, 2M solution in tert-butyl methylether)

14.3 Transport hazard class(es)

ADR

Class 3 (FT1) Flammable liquids.
Label 3+6.1

IMDG, IATA

Class 3 Flammable liquids.
Label 3+6.1

Packing group
ADR, IMDG, IATA II

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user Warning: Flammable liquids.
Kemler Number: 336

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

ADR
Excepted quantities (EQ): E2
Limited quantities (LQ) 1L
Transport category 2
Tunnel restriction code D/E

UN "Model Regulation": UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S. (Iodomethane, 2M solution in tert-butyl methylether), 3 (6.1), II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is listed.

Standard for the Uniform Scheduling of Drugs and Poisons

74-88-4	Iodomethane, 2M solution in tert-butyl methylether	S7

National regulations
Information about limitation of use: Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances) Substance is not listed.
Substances of very high concern (SVHC) according to REACH, Article 57 Substance is not listed.
REACH - Pre-registered substances Substance is listed.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.
Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent