

# SAFETY DATA SHEET

<b>SECTION 1</b>	<b>IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING</b>
------------------	---

As of the revision date above, this (M)SDS meets the regulations in the United Kingdom & Ireland.

## 1.1. PRODUCT IDENTIFIER

**Product Name:** EXXONMOBIL IPA  
**Product Description:** Oxygenated Hydrocarbon  
**Registration Name:** propan-2-ol  
**Registration Number:** 01-2119457558-25-0005

## 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

**Intended Use:** Reactive solvent, Solvent

**Identified Uses:**

Manufacture of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU10, SU3, SU8, SU9)

Distribution of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3, SU8, SU9)

Formulation and (re)packing of substances and mixtures (PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU10, SU3)

Use in laboratories - Industrial (PROC10, PROC15, SU3)

Use in laboratories - Professional (PROC10, PROC15, SU22)

**Uses advised against:** This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

## 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

**Supplier:** ExxonMobil Chemical Belgium  
A division of ExxonMobil Petroleum & Chemical  
Polderdijkweg 3B  
B-2030 Antwerpen  
Belgium  
Phone: 32 3 543 31 11

**Local Contact:** ExxonMobil Chemical Ltd.  
MAILPOINT 88  
CADLAND ROAD  
HARDLEY, SOUTHAMPTON  
SO45 3NP HAMPSHIRE  
Great Britain

**Supplier General Contact:** +44 (0)23-8089-3822 / (0)23-8089-5297  
**E-Mail:** sds.uk@exxonmobil.com

## 1.4. EMERGENCY TELEPHONE NUMBER

**24 Hour Environmental / Health Emergency Telephone:** +44 (0)23-8089-1558

## SECTION 2 HAZARDS IDENTIFICATION

### 2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquid: Category 2.

Eye irritation: Category 2. Target organ toxicant (central nervous system): Category 3.

H225: Highly flammable liquid and vapor.

H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness.

#### Classification according to EU Directive 67/548/EEC / 1999/45 EC

| F; R11 | Xi; R36 | R67 |

Highly flammable. Irritant. R11; Highly flammable.

R36; Irritating to eyes. R67; Vapours may cause drowsiness and dizziness.

The classification of this product is based all or in part on test data.

### 2.2. LABEL ELEMENTS

#### Label elements according to Regulation (EC) No 1272/2008

##### Pictograms:



**Signal Word:** Danger

##### Hazard Statements:

H225: Highly flammable liquid and vapor.

H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness.

##### Precautionary Statements:

P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed.

P240: Ground / bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge.

P261: Avoid breathing mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P280: Wear protective gloves and eye / face protection.

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. P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 3 of 32

---

easy to do. Continue rinsing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P337 + P313: If eye irritation persists: Get medical advice/attention. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) for extinction. P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up. P501: Dispose of contents and container in accordance with local regulations.

**Contains:** propan-2-ol

### 2.3. OTHER HAZARDS

**Physical / Chemical Hazards:**

Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited.

**Health Hazards:**

May be irritating to the skin, nose, throat, and lungs. May cause central nervous system depression. If swallowed, may be aspirated and cause lung damage.

**Environmental Hazards:**

No significant hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

<b>SECTION 3</b>	<b>COMPOSITION / INFORMATION ON INGREDIENTS</b>
------------------	---

### 3.1. SUBSTANCES

This material is defined as a substance.

#### Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

Name	CAS#	EC#	Registration#	Concentration*	GHS/CLP classification
propan-2-ol	67-63-0	200-661-7	01-2119457558-25	100 %	Eye Irrit. 2 H319, Flam. Liq. 2 H225, STOT SE 3 H336, [Asp. Tox. 2 H305]

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

Name	CAS#	EC#	Registration#	Concentration*	DSD Symbols/Risk Phrases
propan-2-ol	67-63-0	200-661-7	01-2119457558-25	100 %	F;R11, Xi;R36, R67

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Note: See (M)SDS Section 16 for full text of the R-Phrases. See (M)SDS Section 16 for full text of hazard statements.

**3.2. MIXTURES** Not Applicable. This product is regulated as a substance.

<b>SECTION 4</b>	<b>FIRST AID MEASURES</b>
------------------	---------------------------

#### **4.1. DESCRIPTION OF FIRST AID MEASURES**

##### **INHALATION**

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

##### **SKIN CONTACT**

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

##### **EYE CONTACT**

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

##### **INGESTION**

Seek immediate medical attention. Do not induce vomiting.

#### **4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

Headache, dizziness, drowsiness, nausea and other CNS effects. Eye pain, redness, tearing, swelling of eyelids, itching.

#### **4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

---

<b>SECTION 5</b>	<b>FIRE FIGHTING MEASURES</b>
------------------	-------------------------------

### 5.1. EXTINGUISHING MEDIA

**Suitable Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**Unsuitable Extinguishing Media:** Straight streams of water

### 5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

**Hazardous Combustion Products:** Smoke, Fume, Incomplete combustion products, Oxides of carbon

### 5.3. ADVICE FOR FIRE FIGHTERS

**Fire Fighting Instructions:** Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop a leak. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Unusual Fire Hazards:** Highly flammable. Vapour is flammable and heavier than air. Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

### FLAMMABILITY PROPERTIES

**Flash Point [Method]:** 15°C (59°F) [ASTM D-56]

**Upper/Lower Flammable Limits (Approximate volume % in air):** UEL: 13 LEL: 2.0 [Technical literature]

**Autoignition Temperature:** >350°C (662°F) [Technical literature]

---

<b>SECTION 6</b>	<b>ACCIDENTAL RELEASE MEASURES</b>
------------------	------------------------------------

### 6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

#### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

#### PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

### 6.2. ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

### 6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

**Land Spill:** Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. **Large Spills:** Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted.

Note: Local regulations may prescribe or limit action to be taken.

### 6.4. REFERENCES TO OTHER SECTIONS

See Section 6.1.

---

<b>SECTION 7</b>	<b>HANDLING AND STORAGE</b>
------------------	-----------------------------

**7.1. PRECAUTIONS FOR SAFE HANDLING**

Avoid contact with eyes. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Peroxides may form upon prolonged storage. Exposure to light, heat or air significantly increases peroxide formation. If evaporated to a residue, the mixture of peroxides residue and material vapor may explode when exposed to heat or shock. Prevent small spills and leakage to avoid slip hazard.

**Loading/Unloading Temperature:** [Ambient]

**Transport Temperature:** [Ambient]

**Transport Pressure:** [Ambient]

**Static Accumulator:** This material is not a static accumulator.

**7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.

**Storage Temperature:** [Ambient]

**Storage Pressure:** [Ambient]

**Suitable Containers/Packing:** Drums; Tank Cars; Tank Trucks; Tankers; Barges

**Suitable Materials and Coatings (Chemical Compatibility):** Carbon Steel; Stainless Steel; Polyester; Teflon; Polyethylene; Polypropylene; Copper Bronze; Epoxy Phenolic; Zinc; Vinyls

**Unsuitable Materials and Coatings:** Aluminium; Cast iron; Polystyrene; Ethylene-propylene-diene monomer (EPDM); Monel; Butyl Rubber; Natural Rubber

**7.3. SPECIFIC END USES:** Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

<b>SECTION 8</b>	<b>EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
------------------	--

### 8.1. CONTROL PARAMETERS

#### EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
propan-2-ol		STEL	1250 mg/m <sup>3</sup>	500 ppm		UK EH40
propan-2-ol		TWA	999 mg/m <sup>3</sup>	400 ppm		UK EH40
propan-2-ol		STEL	400 ppm			ACGIH
propan-2-ol		TWA	200 ppm			ACGIH

UK EH40 Workplace Exposure Limits. Exposure limits for use with Control of Substances Hazardous to Health Regulations 2002 (as amended)

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):  
 UK Health and Safety Executive (HSE)

#### DERIVED NO EFFECT LEVEL (DNEL)/DERIVED MINIMAL EFFECT LEVEL (DMEL)

##### Worker

Substance Name	Dermal	Inhalation
propan-2-ol	888 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects	500 mg/m <sup>3</sup> DNEL, Chronic Exposure, Systemic Effects

##### Consumer

Substance Name	Dermal	Inhalation	Oral
propan-2-ol	319 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects	89 mg/m <sup>3</sup> DNEL, Chronic Exposure, Systemic Effects	26 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects

Note: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

#### PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance Name	Aqua (fresh water)	Aqua (marine water)	Aqua (intermittent release)	Sewage treatment plant	Sediment	Soil	Oral (secondary poisoning)
propan-2-ol	140.9 mg/l	140.9 mg/l	140.9 mg/l	2251 mg/l	552 mg/kg (dry wt)	28 mg/kg	160 mg / kg (food)

### 8.2. EXPOSURE CONTROLS

## ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

## PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves. Nitrile, CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

**Eye Protection:** Chemical goggles are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

**For Summary of Risk Management Measures across all identified uses, see Annex.**

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

---

<b>SECTION 9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
------------------	---

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid  
**Form:** Clear  
**Colour:** Colourless  
**Odour:** Alcohol  
**Odour Threshold:** No data available  
**pH:** No data available  
**Melting Point:** -89°C (-128°F) [Technical literature]  
**Freezing Point:** No data available  
**Initial Boiling Point / and Boiling Range:** 82°C (180°F) - 83°C (181°F) [ASTM D1078]  
**Flash Point [Method]:** 15°C (59°F) [ASTM D-56]  
**Evaporation Rate (n-butyl acetate = 1):** 2.2 [In-house method]  
**Flammability (Solid, Gas):** No data available  
**Upper/Lower Flammable Limits (Approximate volume % in air):** UEL: 13 LEL: 2.0 [Technical literature]  
**Vapour Pressure:** 4.3 kPa (32.25 mm Hg) at 20 °C [Calculated]  
[In-house method]  
**Vapour Density (Air = 1):** > 1 at 101 kPa [Calculated]  
**Relative Density (at 20 °C):** 0.786 [With respect to water] [Calculated]  
**Solubility(ies): water** Complete  
**Partition coefficient (n-Octanol/Water Partition Coefficient):** 0.05 [Technical literature]  
**Autoignition Temperature:** >350°C (662°F) [Technical literature]  
**Decomposition Temperature:** No data available  
**Viscosity:** [N/D at 40°C] | 2.66 cSt (2.66 mm<sup>2</sup>/sec) at 25°C [ASTM D7042]  
**Explosive Properties:** None  
**Oxidizing Properties:** None

### 9.2. OTHER INFORMATION

**Density (at 20 °C):** 785 kg/m<sup>3</sup> (6.55 lbs/gal, 0.79 kg/dm<sup>3</sup>) [ISO 12185]  
**Molecular Weight:** 60 G/MOLE [Calculated]  
**Hygroscopic:** Yes  
**Coefficient of Thermal Expansion:** 0.00117 V/V/DEG C [In-house method]

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 12 of 32

---

<b>SECTION 10</b>
-------------------

<b>STABILITY AND REACTIVITY</b>
---------------------------------

**10.1. REACTIVITY:** See sub-sections below.

**10.2. CHEMICAL STABILITY:** Material is stable under normal conditions. Under normal storage conditions peroxides may accumulate and explode when subjected to heat or shock. Distillation or evaporation increases peroxide formation and increases the explosion hazard.

**10.3. POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

**10.4. CONDITIONS TO AVOID:** Avoid heat, sparks, open flames and other ignition sources.

**10.5. INCOMPATIBLE MATERIALS:** Aldehydes, Amines, Strong oxidisers, Caustics, Chlorinated Compounds, Alkanolamines

**10.6. HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 13 of 32

<b>SECTION 11</b>	<b>TOXICOLOGICAL INFORMATION</b>
-------------------	----------------------------------

### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

<b>Hazard Class</b>	<b>Conclusion / Remarks</b>
<b>Inhalation</b>	
Acute Toxicity: (Rat) 6 hour(s) LC50 > 25000 mg/m <sup>3</sup> (Vapour) Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
<b>Ingestion</b>	
Acute Toxicity (Rat): LD 50 5840 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 401
<b>Skin</b>	
Acute Toxicity (Rabbit): LD 50 13900 mg/kg Test scores or other study results do not meet criteria for classification.	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available. Test scores or other study results do not meet criteria for classification.	May dry the skin leading to discomfort and dermatitis. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404
<b>Eye</b>	
Serious Eye Damage/Irritation: Data available. Test scores or other study results meet criteria for classification.	Irritating and will injure eye tissue. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405
<b>Sensitisation</b>	
Respiratory Sensitization: No end point data.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a skin sensitizer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 406
<b>Aspiration:</b> Data available.	May be harmful if swallowed and enters airways. Based on physico-chemical properties of the material.
<b>Germ Cell Mutagenicity:</b> Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a germ cell mutagen. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471 474 476
<b>Carcinogenicity:</b> Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause cancer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 451
<b>Reproductive Toxicity:</b> Data available. Test scores or other study results do not meet criteria for classification.	Not expected to be a reproductive toxicant. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 414 415 416
<b>Lactation:</b> No end point data.	Not expected to cause harm to breast-fed children.
<b>Specific Target Organ Toxicity (STOT)</b>	
Single Exposure: No end point data.	May cause drowsiness or dizziness.
Repeated Exposure: Data available. Test scores or other study results do not meet criteria for classification.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 14 of 32

---

## OTHER INFORMATION

### For the product itself:

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Additional information is available by request.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 15 of 32

<b>SECTION 12</b>	<b>ECOLOGICAL INFORMATION</b>
-------------------	-------------------------------

The information given is based on data available for the material, the components of the material, and similar materials.

**12.1. TOXICITY**

Material -- Not expected to be harmful to aquatic organisms.

Material -- Not expected to demonstrate chronic toxicity to aquatic organisms

**12.2. PERSISTENCE AND DEGRADABILITY**

**Biodegradation:**

Material -- Expected to be readily biodegradable.

**Hydrolysis:**

Material -- Transformation due to hydrolysis not expected to be significant.

**Photolysis:**

Material -- Transformation due to photolysis not expected to be significant.

**Atmospheric Oxidation:**

Material -- Expected to degrade at a moderate rate in air

**12.3. BIOACCUMULATIVE POTENTIAL** Not determined.

**12.4. MOBILITY IN SOIL**

Material -- Expected to remain in water or migrate through soil.

**12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)**

This product is not, or does not contain, a substance that is a PBT or a vPvB.

**12.6. OTHER ADVERSE EFFECTS**

No adverse effects are expected.

**OTHER ECOLOGICAL INFORMATION**

**VOC:** Yes

**ECOLOGICAL DATA**

**Ecotoxicity**

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	96 hour(s)	Pimephales promelas	LC50 9640 mg/l: data for the material
Aquatic - Acute Toxicity	24 hour(s)	Daphnia magna	LC50 9714 mg/l: data for the material
Aquatic - Acute Toxicity	8 day(s)	Alga	LOEC 1000 mg/l: data for the material

**Persistence, Degradability and Bioaccumulation Potential**

Media	Test Type	Duration	Test Results: Basis
Octanol-Water	Calculated		log Kow 0.05 : material
Water	Ready Biodegradability	5 day(s)	Percent Degraded 53 : material

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 16 of 32

---

<b>SECTION 13</b>
-------------------

<b>DISPOSAL CONSIDERATIONS</b>
--------------------------------

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### 13.1. WASTE TREATMENT METHODS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

### REGULATORY DISPOSAL INFORMATION

**European Waste Code:** 07 07 99 or 08 XX XX

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
-------------------	------------------------------

**LAND (ADR/RID)**

14.1. UN Number: 1219  
14.2. UN Proper Shipping Name (Technical Name): ISOPROPANOL  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: II  
14.5. Environmental Hazards: None  
14.6. Special Precautions for users:  
Classification Code: F1  
Label(s) / Mark(s): 3  
Hazard ID Number: 33  
Hazchem EAC: 2YE  
Transport Document Name: UN1219, ISOPROPANOL, 3, PG II

**INLAND WATERWAYS (ADNR/ADN)**

14.1. UN (or ID) Number: 1219  
14.2. UN Proper Shipping Name (Technical Name): ISOPROPANOL  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: II  
14.5. Environmental Hazards: None  
14.6. Special Precautions for users:  
Hazard ID Number: 33  
Label(s) / Mark(s): 3  
Transport Document Name: UN1219, ISOPROPANOL, 3, PG II

**SEA (IMDG)**

14.1. UN Number: 1219  
14.2. UN Proper Shipping Name (Technical Name): ISOPROPANOL  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: II  
14.6. Special Precautions for users:  
Label(s): 3  
EMS Number: F-E, S-D  
Transport Document Name: UN1219, ISOPROPANOL, 3, PG II, (15°C c.c.)

**SEA (MARPOL 73/78 Convention - Annex II):**

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Substance Name: ISOPROPYL ALCOHOL  
Ship type required: NA  
Pollution category: Z

**AIR (IATA)**

14.1. UN Number: 1219  
14.2. UN Proper Shipping Name (Technical Name): ISOPROPYL ALCOHOL  
14.3. Transport Hazard Class(es): 3  
14.4. Packing Group: II  
14.5. Environmental Hazards: None  
14.6. Special Precautions for users:  
Label(s) / Mark(s): 3  
Transport Document Name: UN1219, ISOPROPYL ALCOHOL, 3, PG II

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 18 of 32

---

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
-------------------	-------------------------------

## REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

**Complies with the following national/regional chemical inventory requirements:** AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

#### Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]

2004/42/CE [on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC.]

96/82/EC as extended by 2003/105/EC [ ... on the control of major-accident hazards involving dangerous substances]. Product contains a substance that falls within the criteria defined in Annex I. Refer to Directive for details of requirements taking into account the volume of product stored on site.

98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.

1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

Refer to the relevant EU/national regulation for details of any actions or restrictions required by the above Regulation(s)/Directive(s).

### 15.2. CHEMICAL SAFETY ASSESSMENT

**REACH Information:** A Chemical Safety Assessment has been carried out for the substance(s) that makes/make up this material or for the material itself.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 19 of 32

**SECTION 16**

**OTHER INFORMATION**

**REFERENCES:** Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

**List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:**

<b>Acronym</b>	<b>Full text</b>
N/A	Not applicable
N/D	Not determined
NE	Not established
VOC	Volatile Organic Compound
AICS	Australian Inventory of Chemical Substances
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
LC	Lethal Concentration
LD	Lethal Dose
LL	Lethal Loading
EC	Effective Concentration
EL	Effective Loading
NOEC	No Observable Effect Concentration
NOELR	No Observable Effect Loading Rate

**KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):**

R11; Highly flammable.

R36; Irritating to eyes.

R67; Vapours may cause drowsiness and dizziness.

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

Flam. Liq. 2 H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2

[Asp. Tox. 2 H305]: May be harmful if swallowed and enters airways; Aspiration, Cat 2

Eye Irrit. 2 H319: Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2

STOT SE 3 H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Revision Changes:

Section 09: Phys/Chem Properties Note was modified.

Section 08: Comply with applicable regulations phrase was modified.

Section 01: Company Mailing Address was modified.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 20 of 32

---

Section 09: Relative Density - Header was modified.  
Section 09: Viscosity was modified.  
Section 14: Transport Document Name was modified.  
Section 15: National Chemical Inventory Listing was modified.  
Section 01: Company Mailing Address - Former Name was modified.  
Section 01: Supplier Mailing Address was modified.  
Composition: Component Table for REACH was modified.  
Formulation and (re)packing of substances and mixtures: Section 1: Uses was modified.  
Use in laboratories - Professional: Section 1: Uses was modified.  
Composition: Component Table was modified.  
Formulation and (re)packing of substances and mixtures: Annex: Section 1 Worker Use Sector was modified.  
Use in laboratories - Professional: Annex: Section 1 Worker Use Sector was modified.  
Formulation and (re)packing of substances and mixtures: Annex: Section 4.1 Worker Health was modified.  
Use in laboratories - Professional: Annex: Section 4.1 Worker Health was modified.  
Distribution of substance: Annex: Section 4.1 Worker Health was modified.  
Use in laboratories - Industrial: Annex: Section 4.1 Worker Health was modified.  
Distribution of substance: Annex: Section 1 Worker Environmental Release Category was modified.  
Section 09: Flash Point °C(°F) was modified.  
Section 09: Boiling Point °C(°F) was modified.  
Section 09: Vapour Pressure was modified.  
Section 01: Company Contact Methods Sorted by Priority was modified.  
Section 01: Company Emergency Contact Methods Sorted by Priority was modified.  
Section 01: Local Contact Mailing Address was added.  
Section 01: Local Contact Mailing Address Header was added.  
Section 01: Local Contact Mailing Address was added.  
Manufacture of substance: Section 1: Uses was added.  
Manufacture of substance: Section 1: Use Table was added.  
Manufacture of substance: Annex: Section 1 Worker Processes, tasks, activities was added.  
Manufacture of substance: Annex: Section 2.1 Worker Physical Form was added.  
Manufacture of substance: Annex: Section 2.2 Worker Duration, frequency and amount was added.  
Manufacture of substance: Annex: Section 2.2 Worker Duration, frequency and amount was added.  
Manufacture of substance: Annex: Section 2.1 Worker Other given operational conditions affecting environmental exposure was added.  
Manufacture of substance: Annex: Section 2.1 Worker Other given operational conditions affecting environmental exposure was added.  
Manufacture of substance: Annex: Section 2.1 Worker Contributing Scenarios/Specific Risk Management Measures and Operating Conditions was added.  
Manufacture of substance: Annex: Section 2.1 Worker Duration, frequency and amount was added.  
Manufacture of substance: Annex: Section 2.1 Worker Duration, frequency and amount was added.  
Manufacture of substance: Annex: Section 1 Worker Specific Environmental Release Category was added.  
Manufacture of substance: Annex: Section 1 Worker Use Sector was added.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 21 of 32

---

Manufacture of substance: Annex: Section 3.2 Worker Environment was added.  
Manufacture of substance: Annex: Section 3.1 Worker Health was added.  
Manufacture of substance: Annex: Section 2.1 Worker Health was added.  
Manufacture of substance: Annex: Section 2.2 Worker Technical conditions was added.  
Manufacture of substance: Annex: Section 2.2 Worker Technical conditions was added.  
Manufacture of substance: Annex: Section 2.2 Worker Product characteristics was added.  
Manufacture of substance: Annex: Section 2.2 Worker Product characteristics was added.  
Manufacture of substance: Annex: Section 2.2 Worker Other given operational conditions affecting environmental exposure was added.  
Manufacture of substance: Annex: Section 2.2 Worker Other given operational conditions affecting environmental exposure was added.  
Manufacture of substance: Annex: Section 4.2 Worker Operating Conditions was added.  
Manufacture of substance: Annex: Section 4.2 Worker Operating Conditions was added.  
Manufacture of substance: Annex: Section 4.1 Worker Health was added.  
Manufacture of substance: Annex: Section 4.1 Worker Health was added.  
Manufacture of substance: Annex: Section 3.2 Worker Environment was added.  
Manufacture of substance: Annex: Section 2.2 Worker Organisation measures to prevent/limit release from site was added.  
Manufacture of substance: Annex: Section 2.2 Worker Organisation measures to prevent/limit release from site was added.  
Manufacture of substance: Annex: Section 2.2 Worker Operating Conditions was added.  
Manufacture of substance: Annex: Section 2.2 Worker Operating Conditions was added.  
Manufacture of substance: Annex: Section 2.2 Worker Conditions and measures related to municipal sewage treatment plant was added.  
Manufacture of substance: Annex: Section 2.2 Worker Conditions and measures related to municipal sewage treatment plant was added.  
Manufacture of substance: Annex: Section 2.2 Worker Environmental factors not influenced by risk management was added.  
Manufacture of substance: Annex: Section 2.2 Worker Environmental factors not influenced by risk management was added.  
Manufacture of substance: Annex: Section 1 Worker Process Category was added.  
Manufacture of substance: Annex: Section 1 Worker Environmental Release Category was added.  
Manufacture of substance: Annex: Section 1 Worker Use Group - Header was added.  
Manufacture of substance: Annex Information was added.  
Manufacture of substance: Annex: Section 2.2 Worker Conditions and measures related to external treatment of waste for disposal was added.  
Manufacture of substance: Annex: Section 2.2 Worker Conditions and measures related to external treatment of waste for disposal was added.  
Manufacture of substance: Annex: Section 2.2 Worker Conditions and measures related to external recovery of waste was added.  
Manufacture of substance: Annex: Section 2.2 Worker Conditions and measures related to external recovery of waste was added.  
Section 01: Company Mailing Address - Additional information was added.  
Section 08: Legal Basis was added.  
Section 16: Acronyms - Lethal concentration was added.  
Section 16: Acronyms - Lethal Dose was added.  
Section 16: Acronyms - Lethal Loading was added.  
Section 16: Acronyms - Effective Concentration was added.  
Section 16: Acronyms - Effective Loading was added.  
Section 16: Acronyms - No Observable Effect Concentration was added.  
Section 16: Acronyms - No Observable Effect Loading Rate was added.  
Section 16: Acronyms - No Observable Effect Loading Rate was added.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 22 of 32

---

Section 16: Acronyms - No Observable Effect Concentration was added.  
Section 16: Acronyms - Effective Loading was added.  
Section 16: Acronyms - Effective Concentration was added.  
Section 16: Acronyms - Lethal Loading was added.  
Section 16: Acronyms - Lethal Dose was added.  
Section 16: Acronyms - Lethal Concentration was added.  
Section 02: GHS (REACH Registration Name) Contains for LABEL\_GHS codes was added.  
Section 02: GHS (REACH Registration Name) Contains - Header was added.  
Section 16: Acronyms - Volatile Organic Compound was added.  
Section 16: Acronyms - Volatile Organic Compound was added.  
Section 01: Company Mailing Address was deleted.  
Section 01: Company Mailing Address was deleted.  
Section 02: GHS Contains - Header was deleted.  
Section 02: GHS Contains for LABEL\_GHS codes was deleted.  
Section 11: Aspiration Test Comment was deleted.  
Section 16: Revision Information - Implementation of GHS requirements phrase. was deleted.  
Section 14: Pollution Category (pulled from EMS\_NUMBER column) was added.  
Section 14: Proper Shipping Name was added.  
Section 14: Ship Type (pulled from ER\_GUIDE\_PAGE column) was added.  
Section 14: IMO ANNEX II - Default was deleted.  
Section 14: IMO ANNEX II Ship Type - Header was added.  
Section 14: IMO ANNEX II Pollution Category - Header was added.  
Section 10: Possibility of Hazardous Reactions was modified.  
Section 14: IMO ANNEX II Product Name - Header was added.

---

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

---

Internal Use Only

MHC: 2A, 0, 0, 2, 1, 1

DGN: LAB2550HGB

(1004616)-----  
-----

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 23 of 32

**ANNEX**

**Section 1 Exposure Scenario Title**

**Title:**

Manufacture of substance

**Use Descriptor**

Sector(s) of Use	SU10, SU3, SU8, SU9
Process Categories	PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b
Environmental Release Categories	ERC1, ERC4
Specific Environmental Release Category	

**Processes, tasks, activities covered**

Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

**Section 2 Operational conditions and risk management measures**

**Section 2.1 Control of worker exposure**

**Product Characteristic**

Liquid

**Duration, frequency and amount**

Covers daily exposures up to 8 hours (unless stated differently)[G2]

Covers percentage substance in the product up to 100 %[G13 ]

**Other given operational conditions affecting workers exposure**

Assumes a good basic standard of occupational hygiene is implemented [G1]

Assumes use at not more than 20°C above ambient temperature[G15]

**Contributing Scenarios/Specific Risk Management Measures and Operating Conditions**

(only required controls to demonstrate safe use listed)

**General exposures (closed systems) PROC1**

No specific measures identified.

**General exposures (closed systems) PROC2**

Handle substance within a closed system.

**General exposures (closed systems) PROC3**

Handle substance within a closed system.

**General exposures (open systems) PROC4**

Handle substance within a closed system.

**Process sampling PROC8b**

No specific measures identified.

**Laboratory activities PROC15**

No specific measures identified.

**Bulk transfers (open systems) PROC8b**

Handle substance within a closed system.

**Bulk transfers (closed systems) PROC8b**

Ensure material transfers are under containment or extract ventilation.

Clear transfer lines prior to de-coupling.

**Equipment cleaning and maintenance PROC8a**

Retain drain downs in sealed storage pending disposal or for subsequent recycle.

Clear spills immediately.

**Storage PROC2**

Store substance within a closed system.

Avoid dip sampling.

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 24 of 32

provide a good standard of controlled ventilation (10 to 15 air changes per hour).
<b>Section 2.2 Control of environmental exposure</b>
<b>Product characteristics</b>
Not applicable
<b>Duration, frequency and amount</b>
Not applicable
<b>Environmental factors not influenced by risk management</b>
Not applicable
<b>Other given operational conditions affecting environmental exposure</b>
No exposure assessment presented for the environment [G40]
<b>Technical conditions and measures at process level (source) to prevent release</b>
Not applicable
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>
Not applicable
<b>Organisation measures to prevent/limit release from site</b>
Not applicable
<b>Conditions and measures related to municipal sewage treatment plant</b>
Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
<b>Section 3 Exposure Estimation</b>
<b>3.1. Health</b>
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21]
<b>3.2. Environment</b>
Not applicable
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. [G22] Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
<b>4.2. Environment</b>
Not applicable

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 25 of 32

<b>Section 1 Exposure Scenario Title</b>	
<b>Title:</b>	
Distribution of substance	
<b>Use Descriptor</b>	
Sector(s) of Use	SU3, SU8, SU9
Process Categories	PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC1, ERC2, ERC3, ERC4, ERC5, ERC6A, ERC6B, ERC6C, ERC6D, ERC7
Specific Environmental Release Category	
<b>Processes, tasks, activities covered</b>	
Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, distribution and associated laboratory activities.	
<b>Section 2 Operational conditions and risk management measures</b>	
<b>Section 2.1 Control of worker exposure</b>	
<b>Product Characteristic</b>	
Liquid	
<b>Duration, frequency and amount</b>	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13 ]	
<b>Other given operational conditions affecting workers exposure</b>	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Assumes use at not more than 20°C above ambient temperature[G15]	
<b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b> (only required controls to demonstrate safe use listed)	
<p><b>General exposures (closed systems) PROC1</b> Handle substance within a closed system.</p> <p><b>General exposures (closed systems) PROC2</b> Handle substance within a closed system.</p> <p><b>General exposures (closed systems) PROC3</b> Handle substance within a closed system.</p> <p><b>General exposures (open systems) PROC4</b> Clear transfer lines prior to de-coupling.</p> <p><b>Process sampling PROC3</b> Avoid dip sampling.</p> <p><b>Laboratory activities PROC15</b> No specific measures identified.</p> <p><b>Bulk transfers (closed systems) PROC8b</b> Clear transfer lines prior to de-coupling.</p> <p><b>Bulk transfers (open systems) PROC8b</b> Clear transfer lines prior to de-coupling.</p> <p><b>Drum and small package filling PROC9</b> Clear spills immediately. Put lids on containers immediately after use.</p> <p><b>Equipment cleaning and maintenance PROC8a</b> Apply vessel entry procedures including use of supplied compressed air.</p> <p><b>Storage PROC2</b> Store substance within a closed system. Avoid dip sampling.</p>	
<b>Section 2.2 Control of environmental exposure</b>	
<b>Product characteristics</b>	

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 26 of 32

Not applicable
<b>Duration, frequency and amount</b>
Not applicable
<b>Environmental factors not influenced by risk management</b>
Not applicable
<b>Other given operational conditions affecting environmental exposure</b>
No exposure assessment presented for the environment [G40]
<b>Technical conditions and measures at process level (source) to prevent release</b>
Not applicable
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>
Not applicable
<b>Organisation measures to prevent/limit release from site</b>
Not applicable
<b>Conditions and measures related to municipal sewage treatment plant</b>
Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
<b>Section 3 Exposure Estimation</b>
<b>3.1. Health</b>
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21]
<b>3.2. Environment</b>
Not applicable
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. [G22] Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
<b>4.2. Environment</b>
Not applicable

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 27 of 32

Section 1 Exposure Scenario Title	
<b>Title:</b>	
Formulation and (re)packing of substances and mixtures	
<b>Use Descriptor</b>	
Sector(s) of Use	SU10, SU3
Process Categories	PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9
Environmental Release Categories	ERC2
Specific Environmental Release Category	
<b>Processes, tasks, activities covered</b>	
Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
<b>Product Characteristic</b>	
Liquid	
<b>Duration, frequency and amount</b>	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13 ]	
<b>Other given operational conditions affecting workers exposure</b>	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Assumes use at not more than 20°C above ambient temperature[G15]	
Contributing Scenarios/Specific Risk Management Measures and Operating Conditions (only required controls to demonstrate safe use listed)	
<p><b>General exposures (closed systems) PROC1</b> Handle substance within a closed system.</p> <p><b>General exposures (closed systems) PROC2</b> Handle substance within a closed system.</p> <p><b>General exposures (closed systems) PROC3</b> Handle substance within a closed system.</p> <p><b>General exposures (open systems) PROC4</b> No specific measures identified.</p> <p><b>Batch processes at elevated temperatures Operation is carried out at elevated temperature (&gt; 20°C above ambient temperature). PROC3</b> No specific measures identified.</p> <p><b>Process sampling PROC3</b> Avoid dip sampling.</p> <p><b>Laboratory activities PROC15</b> No specific measures identified.</p> <p><b>Bulk transfers PROC8b</b> Clear transfer lines prior to de-coupling. Clear spills immediately. Remotely vent displaced vapours.</p> <p><b>Mixing operations (open systems) PROC5</b> No specific measures identified.</p> <p><b>Manual Transfer from/pouring from containers PROC8a</b> No specific measures identified.</p> <p><b>Drum/batch transfers PROC8b</b> No specific measures identified.</p> <p><b>Production of preparations or articles by tableting, compression, extrusion, pelettisation PROC14</b></p>	

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 28 of 32

No specific measures identified.
<b>Drum and small package filling PROC9</b>
Put lids on containers immediately after use.
<b>Equipment cleaning and maintenance PROC8a</b>
Apply vessel entry procedures including use of supplied compressed air.
<b>Storage PROC2</b>
Store substance within a closed system.
Avoid dip sampling.
<b>Section 2.2 Control of environmental exposure</b>
<b>Product characteristics</b>
Not applicable
<b>Duration, frequency and amount</b>
Not applicable
<b>Environmental factors not influenced by risk management</b>
Not applicable
<b>Other given operational conditions affecting environmental exposure</b>
No exposure assessment presented for the environment [G40]
<b>Technical conditions and measures at process level (source) to prevent release</b>
Not applicable
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>
Not applicable
<b>Organisation measures to prevent/limit release from site</b>
Not applicable
<b>Conditions and measures related to municipal sewage treatment plant</b>
Not applicable
Conditions and measures related to external treatment of waste for disposal
Not applicable
Conditions and measures related to external recovery of waste
Not applicable
<b>Section 3 Exposure Estimation</b>
<b>3.1. Health</b>
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21]
<b>3.2. Environment</b>
Not applicable
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. [G22]
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
<b>4.2. Environment</b>
Not applicable

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 29 of 32

<b>Section 1 Exposure Scenario Title</b>	
<b>Title:</b>	
Use in laboratories - Industrial	
<b>Use Descriptor</b>	
Sector(s) of Use	SU3
Process Categories	PROC10, PROC15
Environmental Release Categories	ERC2, ERC4
Specific Environmental Release Category	
<b>Processes, tasks, activities covered</b>	
Use of the substance within laboratory settings, including material transfers and equipment cleaning.	
<b>Section 2 Operational conditions and risk management measures</b>	
<b>Section 2.1 Control of worker exposure</b>	
<b>Product Characteristic</b>	
Liquid	
<b>Duration, frequency and amount</b>	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13 ]	
<b>Other given operational conditions affecting workers exposure</b>	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Assumes use at not more than 20°C above ambient temperature[G15]	
<b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b>	
(only required controls to demonstrate safe use listed)	
<b>Laboratory activities PROC15</b>	
No specific measures identified.	
<b>Cleaning PROC10</b>	
provide a good standard of controlled ventilation (10 to 15 air changes per hour).	
<b>Section 2.2 Control of environmental exposure</b>	
<b>Product characteristics</b>	
Not applicable	
<b>Duration, frequency and amount</b>	
Not applicable	
<b>Environmental factors not influenced by risk management</b>	
Not applicable	
<b>Other given operational conditions affecting environmental exposure</b>	
No exposure assessment presented for the environment [G40]	
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Not applicable	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Not applicable	
<b>Organisation measures to prevent/limit release from site</b>	
Not applicable	
<b>Conditions and measures related to municipal sewage treatment plant</b>	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
<b>Section 3 Exposure Estimation</b>	
<b>3.1. Health</b>	

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 30 of 32

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21]
<b>3.2. Environment</b>
Not applicable
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. [G22] Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
<b>4.2. Environment</b>
Not applicable

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 31 of 32

<b>Section 1 Exposure Scenario Title</b>	
<b>Title:</b>	
Use in laboratories - Professional	
<b>Use Descriptor</b>	
Sector(s) of Use	SU22
Process Categories	PROC10, PROC15
Environmental Release Categories	ERC8A
Specific Environmental Release Category	
<b>Processes, tasks, activities covered</b>	
Use of small quantities within laboratory settings, including material transfers and equipment cleaning.	
<b>Section 2 Operational conditions and risk management measures</b>	
<b>Section 2.1 Control of worker exposure</b>	
<b>Product Characteristic</b>	
Liquid	
<b>Duration, frequency and amount</b>	
Covers daily exposures up to 8 hours (unless stated differently)[G2]	
Covers percentage substance in the product up to 100 %[G13 ]	
<b>Other given operational conditions affecting workers exposure</b>	
Assumes a good basic standard of occupational hygiene is implemented [G1]	
Assumes use at not more than 20°C above ambient temperature[G15]	
<b>Contributing Scenarios/Specific Risk Management Measures and Operating Conditions</b>	
(only required controls to demonstrate safe use listed)	
<b>Laboratory activities PROC15</b>	
No specific measures identified.	
<b>Cleaning PROC10</b>	
provide a good standard of controlled ventilation (10 to 15 air changes per hour).	
<b>Section 2.2 Control of environmental exposure</b>	
<b>Product characteristics</b>	
Not applicable	
<b>Duration, frequency and amount</b>	
Not applicable	
<b>Environmental factors not influenced by risk management</b>	
Not applicable	
<b>Other given operational conditions affecting environmental exposure</b>	
No exposure assessment presented for the environment [G40]	
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Not applicable	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Not applicable	
<b>Organisation measures to prevent/limit release from site</b>	
Not applicable	
<b>Conditions and measures related to municipal sewage treatment plant</b>	
Not applicable	
Conditions and measures related to external treatment of waste for disposal	
Not applicable	
Conditions and measures related to external recovery of waste	
Not applicable	
<b>Section 3 Exposure Estimation</b>	
<b>3.1. Health</b>	

Product Name: EXXONMOBIL IPA

Revision Date: 30 Apr 2012

Page 32 of 32

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated [G21]
<b>3.2. Environment</b>
Not applicable
<b>Section 4 Guidance to check compliance with the Exposure Scenario</b>
<b>4.1. Health</b>
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. [G22] Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.[G23]
<b>4.2. Environment</b>
Not applicable